

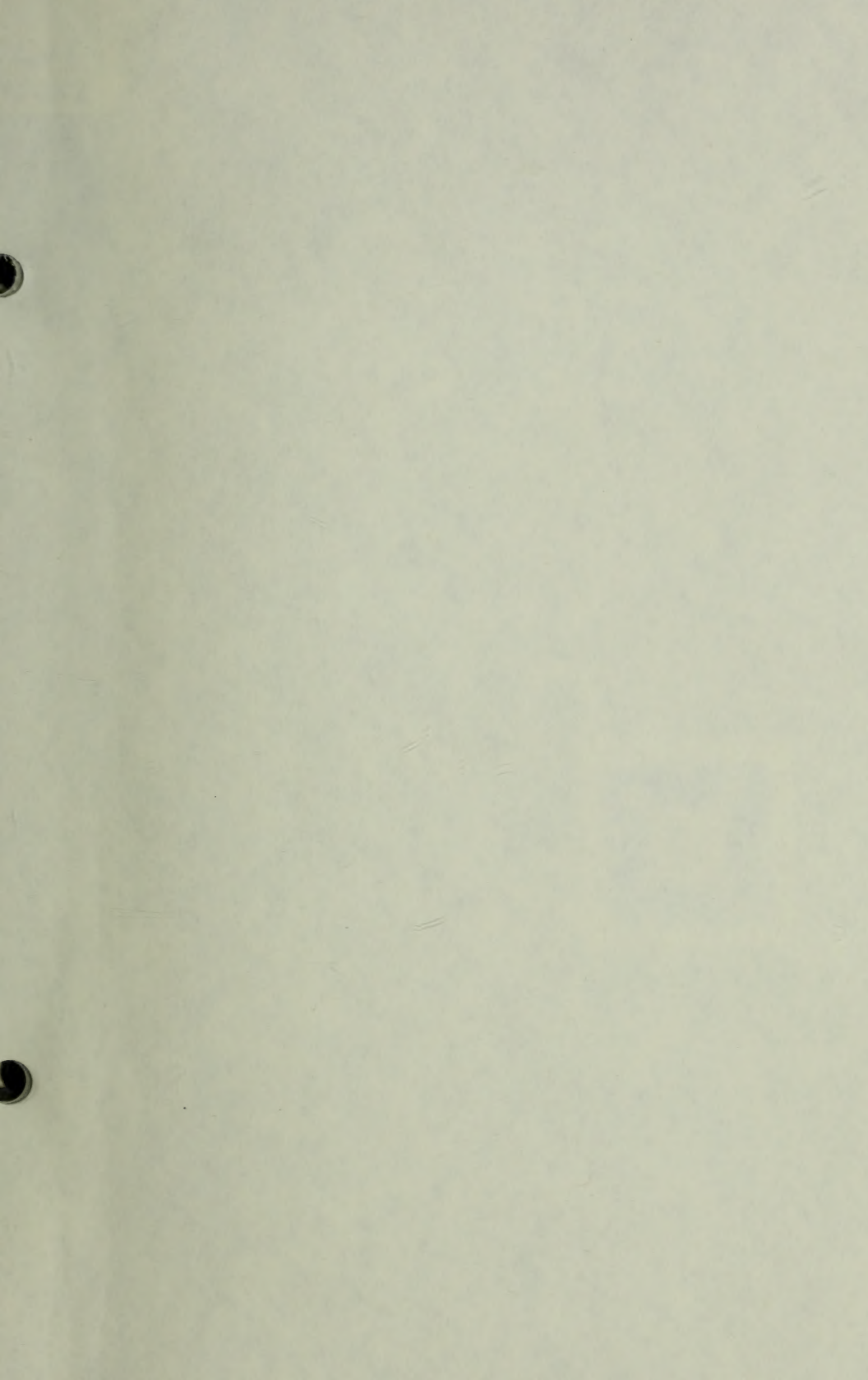
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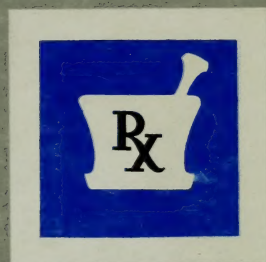


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1951
1952 CATALOG

College of Pharmacy



University of Illinois

1951
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1952

College of Pharmacy

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1951/52

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Calendar

1950 — FALL QUARTER

September 25, Monday	Registration.
September 26, Tuesday	First day of classes.
November 23, Thursday	Thanksgiving Day.
December 16, Saturday	Fall quarter ends.

1951 — WINTER QUARTER

January 2, Tuesday	Registration and first day of classes.
March 24, Saturday	Winter quarter ends.

1951 — SPRING QUARTER

April 2, Monday	Registration and first day of classes.
May 30, Wednesday	Memorial Day.
June 15, Friday	Graduation.
June 23, Saturday	Spring quarter ends.

1951 — SUMMER QUARTER

June 25, Monday	Registration and first day of classes.
July 4, Wednesday	Independence Day.
September 3, Monday	Labor Day.
September 15, Saturday	Summer quarter ends.

1951 — FALL QUARTER

October 1, Monday	Registration.
October 2, Tuesday	First day of classes.
November 22, Thursday	Thanksgiving Day.
December 22, Saturday	Fall quarter ends.

1952 — WINTER QUARTER

January 7, Monday	Registration and first day of classes.
March 29, Saturday	Winter quarter ends.

1952 — SPRING QUARTER

April 7, Monday
May 30, Friday
June 20, Friday
June 28, Saturday

Registration and first day of classes.
Memorial Day.
Graduation.
Spring quarter ends.

1952 — SUMMER QUARTER

June 30, Monday
July 4, Friday
September 1, Monday
September 20, Saturday

Registration and first day of classes.
Independence Day.
Labor Day.
Summer quarter ends.

1952 — FALL QUARTER

September 29, Monday
September 30, Tuesday
November 27, Thursday
December 20, Saturday

Registration.
First day of classes.
Thanksgiving Day.
Fall quarter ends.

1953 — WINTER QUARTER

January 5, Monday
March 28, Saturday

Registration and first day of classes.
Winter quarter ends.

1953 — SPRING QUARTER

April 6, Monday
May 30, Saturday
June 19, Friday
June 27, Saturday

Registration and first day of classes.
Memorial Day.
Graduation.
Spring quarter ends.

1953 — SUMMER QUARTER

June 29, Monday
July 4, Saturday
September 7, Monday
September 19, Saturday

Registration and first day of classes.
Independence Day.
Labor Day.
Summer quarter ends.

1953 — FALL QUARTER

September 28, Monday

Registration.

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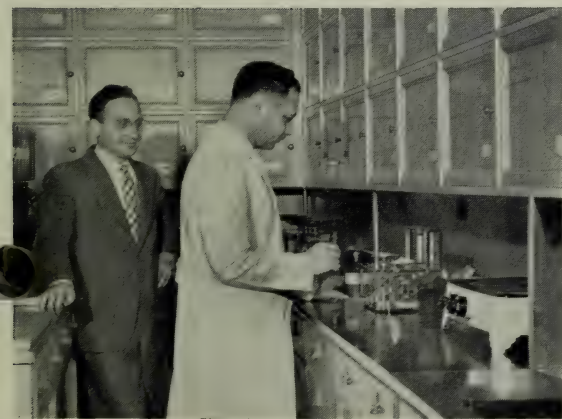
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This view shows the prescription compounding counter, the stainless steel ointment jars, and the wall cabinets used for chemical stocks and in the compounding of prescriptions.



Dentistry, Medicine, Pharmacy Building

College of Pharmacy

Location, History, and Administration

Location

The College of Pharmacy of the University of Illinois is located in the great medical center on the west side of Chicago. The work of the College, together with the related work in the Colleges of Medicine and Dentistry and the Graduate College, is centralized in the Dentistry, Medicine, Pharmacy Building, facing on Polk, Wood, and Wolcott Streets. The campus, which is about three miles from the Loop, or main business district of the city, can be reached conveniently by elevated train, street car, or automobile.

The University buildings contain the administrative offices of the College, the library, several museums, many classrooms and large laboratories for class work, and numerous smaller laboratories for individual research projects.

The Research and Educational Hospitals and the Illinois Eye and Ear Infirmary provide excellent facilities for the teaching of Hospital Pharmacy to both undergraduate and graduate students.

The Drug Plant Experiment Station, located at Lisle, Illinois, provides a unique opportunity for the development of drug plant research, and the training of graduate students who are majoring in the field of Pharmacognosy. The facilities of the Station are augmented by the very extensive plant culture programs of the Morton Arboretum.

History

The College of Pharmacy was originally an independent proprietary institution before becoming affiliated with the University of Illinois. It is by far the oldest, having been organized as the Chicago College of Pharmacy on September 5, 1859, eight years before the University itself was incorporated. It was the third institution of its kind in the United States. Activities were suspended during the Civil War, and the College was not reopened until 1870. When its property was destroyed by the Chicago fire of 1871, the pharmacists of the world promptly came to the rescue, those of Great Britain in particular. They enabled the College to reopen again in 1872, with new equipment, including a library, much better than ever before. In 1896, it became the School of Pharmacy of the University of Illinois, and in 1932 its name was changed to the College of Pharmacy, when the curriculum leading to the degree of Bachelor of Science in Pharmacy was announced. In 1939-1940 the College of Pharmacy was moved from its former quarters, 715 South Wood Street, to the Dentistry, Medicine, Pharmacy Building.

Graduate work has been offered in the Chicago departments since 1915. The present work of the Graduate College is described in detail in a separate announcement.

Administration

Under the laws of the state of Illinois, the Board of Trustees of the University of Illinois is composed of eleven members, including the Governor and the Superintendent of Public Instruction who serve ex officio, nine members being elected by the people of the state for terms of six years.

Under the University Statutes adopted by the Board of Trustees, the affairs of the University are administered by the President, the Provost, the Vice-President, the Deans and Directors of the Colleges and Schools, and other administrative officers, most of whom are located on the main campus of the University at Urbana. The Chicago departments are organized in three colleges — Dentistry, Medicine, and Pharmacy — each college having its own Dean, and all being under the general supervision of the Vice-President.

The University Senate is composed of members of the faculty who have full professorial rank and others who are in charge of departments, both at Urbana and in Chicago.

Members of the faculty in each college cooperate with those in other colleges of the University, both in instruction and in research. Staff members of the basic science departments in the College of Medicine also give instruction for students of dentistry, pharmacy, and occupational therapy.

Accreditation

The College of Pharmacy of the University of Illinois is fully accredited as a Class A College by the American Council on Pharmaceutical Education. The Council is the only accrediting agency for the profession of Pharmacy, and is an affiliate of the American Council on Education.

Library and Museums

The library contains a comprehensive collection of standard and modern works on medical, dental, and pharmaceutical subjects, with over 950 current periodicals and more than 95,000 books. It is used by professional men throughout the Chicago area, and its service to the University staff and students is supplemented by loan arrangements with other libraries. The College of Pharmacy has a museum including more than 10,000 specimens of crude drugs and technical products. One collection is classi-

fied according to botanical origin, and is arranged in cases illustrating habitat, commerce, etc. Another collection contains every drug officially listed in the United States Pharmacopoeia since 1820 or in the National Formulary since 1888.

Recreational Facilities

The social and recreational center for students, alumni, and faculty members is the Chicago Illini Union Building, 715 South Wood Street. Its facilities include a cafeteria, grill, soda fountain, browsing room, music room, gymnasium, meeting rooms, and game rooms. Intramural sports under a trained director are encouraged, and facilities and equipment are available for softball, touch football, horseshoes, tennis, archery, wrestling, fencing, badminton, basketball, handball, and ping pong. Through special arrangements, the swimming pools of the nearby YMCA and YWCA are available to students.

Requirements for Admission

General Regulations and Directions

Applications for admission to the College of Pharmacy should be addressed to the Examiner and Recorder, 1853 West Polk Street, Chicago 12. Official credentials, covering all collegiate and secondary school work done by the applicants, must be sent directly from each institution attended. Since space limitations make it necessary to restrict enrollment, applicants should have their credentials mailed to the Examiner and Recorder as early as possible. Applications will be received between January 1 and May 31 of each year. New classes enroll only in the fall, usually late in September.

Veterans of World War II may attend under the provisions of Public Law 16 (Rehabilitation) or Public Law 346 (G. I. Bill of Rights). Under each act, the government pays school charges and provides required books and equipment to the amount of \$500 annually. The veteran should consult the Office of Veterans Administration to apply for the benefits of either act. A preferential score of ten per cent has been established for such veterans in determining their eligibility for admission.

Credentials accepted for admission become the property of the University and are kept permanently in the files.

Health Certificates. For each applicant whose previous record meets the requirements for admission, or who appears likely to meet them before the opening of the school year when he desires to enroll, the health officer at the last institution attended will be asked to furnish a certificate con-

cerning the applicant's health, both physical and mental. When the health service of an institution can not supply the desired information, the applicant should have his family physician send in a report on his physical condition. If a student's application for admission is approved at a date so late as to make it impossible to obtain a health certificate before classes begin, he may be registered temporarily pending a satisfactory report from the Health Service.

Physical Examination. Each applicant who is accepted for admission must report to the University Health Service for a physical examination before registration. Appointments for this examination are usually made in the month preceding registration. Each applicant is also urged to report to his family physician and dentist for a complete examination, including Schick and Dick reactions and smallpox vaccination. The applicant's eyes should also be examined and fitted with glasses if needed. A statement from the family physician regarding findings and immunization procedures should be forwarded to the Health Service of the University.

Selection of Applicants. As the capacity of the College of Pharmacy is limited, selection of applicants is necessary. Selection is made by a Committee on Admissions. No student will be considered who is on scholastic probation or who has been dropped for poor scholarship from the last institution attended. Applicants who meet in full the course and grade-average requirements will be notified to appear for aptitude tests and interviews. In selecting applicants, the Committee will take into consideration the candidate's personal qualifications, including such factors as his interest in the profession of Pharmacy, scholastic records from schools and colleges previously attended, recommendations from teachers and employers, health records, aptitude tests, interviews, and military service. Applications are restricted to residents of Illinois. Invitations to register will be sent to approved applicants.

Deposit. Each applicant who is assigned a place in any class in the College of Pharmacy is required to make a deposit of \$15 within two weeks of the date of notification that he will be admitted. This deposit will be applied on fees assessed against him at the time of registration. Failure to pay this deposit within the specified time will subject the applicant to forfeiture of his place. No deposit will be returned unless the applicant notifies the Examiner and Recorder, at least thirty days before the time for registration, that he will not be able to enter. The Director of Admissions and Records is authorized to make refunds after that time when, in his judgment, the circumstances so justify.

Renewing Applications. An applicant who has been accepted for admission but fails to enroll, and who wishes to enter in a subsequent year,

must reapply for admission and must meet all the requirements in force at the time of the new application. Students who fail to gain admission may reapply after January 1 of the following year.

Special Requirements

Each applicant for admission to the College of Pharmacy, in addition to the general regulations and directions stated above, must comply with the following special requirements:

Age. The minimum age for admission is sixteen years.

High School Requirements. Applicants must be graduates of an accredited high school offering a full four-year course, or pass an entrance examination covering any high school deficiencies. Fifteen of the units required for high school graduation must include two majors (of three units each) and one minor (of two units) from the fields of English, foreign language, mathematics, science, and social studies, with a total of at least nine units from these fields. One major must be English. At least a minor must be in mathematics, including algebra and plane geometry. The six remaining units necessary for admission may be selected from any of the high school subjects which are accepted by an accredited high school toward its diploma and which meet the standards for accrediting, as defined by the University of Illinois. Two units of science (including biology) and two units of social studies are desirable, although not required.

Admission with Advanced Standing. Each applicant, even though submitting advanced credits from an accredited college or university, must appear for aptitude tests and personal interviews. All applicants are selected on a competitive basis. The College of Pharmacy accepts as transfer credits such liberal arts courses as are required for the degree of Bachelor of Science in Pharmacy, provided the grade attained by the student is C or better. Certain technical courses in Pharmacy are required during the freshman year of the curriculum. Hence, no student can receive credit for his freshman year in another college or university which does not offer technical courses in Pharmacy in the freshman year.

Enrollment Limitation. The Board of Trustees has approved the limitation of enrollment of the entering class to 125 students, because of the limited teaching facilities which are now available in the College of Pharmacy.

Requirements for Graduation

A candidate for the degree of Bachelor of Science in Pharmacy must meet the following general requirements: (1) show evidence of good

moral character, (2) pay all indebtedness to the University, (3) obtain passing grades in all courses of the required curriculum, and (4) have completed the Pharmacy curriculum of 202 quarter hours or more, with a minimum average of C, equivalent to a minimum grade-point average of 3.0 for the total number of hours of credit counted toward the degree. Either the first three years of work, or the last year, must be done in the College of Pharmacy.

Bachelor of Science Requirements for Ph.C. Graduates

Graduates of the University of Illinois College of Pharmacy with the degree of Pharmaceutical Chemist may apply for readmission to the College for courses leading to the degree of Bachelor of Science in Pharmacy. Such applications are subject to the approval of the office of the Dean of the College of Pharmacy.

Approved candidates shall be required to complete a program of courses designed (a) to supplement existing deficiencies in fundamental and basic subjects and (b) to develop in the candidate a contemporary level of knowledge embodied in advanced professional subjects from the current curriculum of the College of Pharmacy.

Satisfactory completion of this course of study totaling 64 quarter hours, as defined below, shall entitle the student to candidacy for the degree of Bachelor of Science in Pharmacy.

Fundamental course requirements shall consist of the following subjects which may be elected in this university or in any accredited college or university:

	QUARTER HOURS
Mathematics.....	9
English	9
Invertebrate and Vertebrate Zoology.....	9
Physics	12
<i>Total</i>	<u>39</u>

Credit for the requirements in English may be established by proficiency examination within the provisions of the University of Illinois.

Upon completion of this fundamental program of study, candidates shall be required to elect the following courses from the current curriculum of the College of Pharmacy. These courses must be taken in residence.

	QUARTER HOURS
Pharmacology 262, 263, 264.....	12
Pharmacy 203, 204, 205.....	9
Chemistry 342	4
<i>Total</i>	<u>25</u>

Students presenting satisfactory evidence of proficiency in any of the above courses in pharmacology, pharmacy, or chemistry may, at the discretion of the Dean of the College of Pharmacy, elect equivalent credit hours in other courses from the senior curriculum. Such elections must be completed in residence.

Honors

A student who complies with the requirements for graduation, and who attains in all work presented for the degree the average grade specified below, may be recommended by the University Senate for the honors stated: for an average grade of not less than 4.35, graduation with honors; for an average grade of not less than 4.75, graduation with high honors. The honors awarded are noted on the diploma and in the Commencement program.

State Registration of Pharmacists

An amendment to the Illinois Pharmacy law in effect July 1, 1917, provides that a candidate for the certificate of registered pharmacist must have attained the age of twenty-one years or over; must be of good moral character and temperate habits; must be a graduate from a school of pharmacy recognized by the State Department of Registration and Education; must have had four years' experience in pharmacy; and must have passed the examination given by the State Board of Pharmacy.

There is also a provision whereby persons may register by reciprocity with other states in which they hold certificates of registration. There are forty-six states that reciprocate with Illinois in this way. Certain rules must be complied with, certain fees paid, and the application should be made to the National Association of Boards of Pharmacy. Details will be furnished by the Dean's office on request.

Particular attention is called to the clause regarding practical experience. Actual time of attendance at a recognized school of pharmacy, but not to exceed three years, will be allowed on the four years' experience required by law. The remainder of the experience must have been in compounding and dispensing drugs, medicines, and poisons under the supervision of a registered pharmacist in a drugstore or pharmacy where the prescriptions of medical practitioners are compounded. Attention is called to the fact that the College of Pharmacy is the only recognized school of this kind in Illinois.

It is important that every student desiring to qualify in Illinois should become registered as an apprentice as early as possible, since the experi-

ence time mentioned above is counted only from the date of registration as an apprentice. Any time spent prior to this date is not credited as experience.

Fees and Expenses

A schedule of fees for regular full-time students in the College of Pharmacy is listed below. One-third of each year's fees is payable on registration for each quarter. The Board of Trustees of the University reserves the right to change the fees at any time through publication in the annual announcements.

	FIRST YEAR		SECOND YEAR		THIRD YEAR		FOURTH YEAR	
	<i>Ill.</i>	<i>Non-Ill.</i>	<i>Ill.</i>	<i>Non-Ill.</i>	<i>Ill.</i>	<i>Non-Ill.</i>	<i>Ill.</i>	<i>Non-Ill.</i>
Tuition Fee . . .	\$ 81.00	\$162.00	\$ 81.00	\$162.00	\$ 81.00	\$162.00	\$ 81.00	\$162.00
Laboratory Fees	60.00	78.00	90.00	108.00	90.00	108.00	96.00	114.00
Union Building Service Charge	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50
	<u>\$151.50</u>	<u>\$250.50</u>	<u>\$181.50</u>	<u>\$280.50</u>	<u>\$181.50</u>	<u>\$280.50</u>	<u>\$187.50</u>	<u>\$286.50</u>

Students registered for twelve credit hours or less pay tuition fees at the rate of \$2 a credit hour if residents of Illinois, or \$4 a credit hour if nonresidents. For thirteen credit hours or more, the full tuition fees are charged. Students taking twelve quarter hours or less will pay \$3 per quarter hour credit in courses involving laboratory work. In no case will a student be assessed a greater laboratory fee than is paid by full-time students. All part-time students will pay the full Union Building Service Charge.

Late Registration Fee. Former students who register after the regular registration days in any quarter pay a late registration fee of \$5.

Special Examination Fee. For any special examination to remove a failure, the fee is \$5.

Study-list Change Fee. A fee of \$1 is charged for every study-list change slip issued later than the Saturday noon following the regular registration days. This rule applies also to registration for electives after the dates specified for regular registration.

Transcript Fee. Each student who has paid all his University fees is entitled to receive, without charge, one transcript of his record. For each additional transcript the fee is 50 cents.

Listener's Fee. For each credit hour, persons not connected with the University who are permitted to attend classes as listeners pay \$10 if residents of Illinois, \$20 if nonresidents.

Fees for Unclassified Students. Fees charged unclassified students are based on the amount of work taken.

Service Charge for Deferred Fees. In cases of necessity, students may arrange for deferment of fees by calling at the Business Office (128 Dentistry, Medicine, Pharmacy Building). A service charge of ten per cent of the amount of fees deferred, not to exceed \$2 a quarter, will be charged for the privilege of deferring fees, and this charge must be paid on the day of registration. If deferred fees are paid in full within ten days after registration, the service charge will be refunded, except that a minimum service charge of \$1 will be retained by the University in all cases. The service charge, not less than one-third of the current quarter's fees, and all fees and charges from previous terms must be paid on the day of registration. Failure to meet payments of fees within the time limits will cancel at once the privilege of attending classes. Registration is not completed until fees are paid in full, and no credit will be recorded for class work completed unless all fees and other charges have been paid in full. Deferred payment of fees delays the completion of registration, but extends the privilege of attending classes pending payment of fees in full as described above.

Refunds. If a student withdraws within ten days after the beginning of instruction, his total fees (except the \$15 deposit) will be refunded. After ten days and before the expiration of one month, a refund of two-thirds of his total fees will be made. After one month and before the expiration of two months, a refund of one-third of these fees will be made. After the expiration of two months, no part of the fees will be refunded.

Expenses

From \$90 to \$125 a month may be regarded as adequate for the ordinary living expenses of a student in Chicago, exclusive of books, clothing, railroad fare, and miscellaneous needs. A ten-story YMCA building located three blocks from the campus of the University affords a comfortable home for a limited number of students.

The expense for books varies between \$40 and \$50 a year.

Scholarships, Prizes, and Loan Funds

Scholarships

General Assembly Scholarships. Each member of the General Assembly may make one nomination annually. Nominations must be filed with the President of the University on or before the opening day of the semester

or term in which the scholarships are to become effective. Holders of these scholarships are exempt from tuition fees, but not from other fees. *State Military Scholarships.* Acts of the General Assembly passed in 1919 and 1943 provide scholarships for veterans of World War I and World War II who, at the time of enlistment, were residents of Illinois, or students in the University of Illinois. These scholarships exempt the holders from tuition fees in any department of the University. In 1943, the General Assembly also established two scholarships in every county, one each for descendants of veterans of World War I and World War II. These scholarships are awarded by competitive examination held on the first Saturday in June.

Prizes

Borden Scholarship Award. The Borden Company, through the Borden Company Foundation, Inc., has established in the College of Pharmacy the Borden Scholarship Award. This award consists of a \$300 scholarship, which is given annually to the junior student who attains the highest scholastic average upon entering the senior year.

Elich Prize. Mr. Herman Elich, an alumnus of the College of Pharmacy, offers annually a prize of \$25 to the senior student who attains the highest average in pharmacognosy.

Merck Award. The Merck Award is made annually by Merck and Company, Inc., to two honor students in the graduating class of the College of Pharmacy. The award consists of one copy each of: The Merck Index, The Merck Manual, and Rosin's Reagent Chemicals and Standards.

Rho Chi Prize. Phi Chapter of Rho Chi, honorary pharmaceutical society, awards annually an embossed copy of the United States Dispensatory as a prize to the student attaining the highest average grade in the sophomore year.

Van Schaack Prize. By the will of Cornelius P. Van Schaack, the College of Pharmacy received in 1937 the sum of one thousand dollars to be held in trust by the University. The annual income from this bequest is to be used for the purchase of a gold medal, known as the C. P. Van Schaack Award, which is to be presented to the senior student making the highest average in chemistry during his entire course in the College of Pharmacy.

Loan Funds

Several loan funds have been established for the benefit of worthy students who have satisfactorily completed at least one year of work in the

University and are in need of financial aid in order to finish their courses. Information concerning these funds and the regulations governing loans may be obtained from the office of the Dean of the College.

American Pharmaceutical Association Women's Auxiliary Loan Fund. The Women's Auxiliary of the American Pharmaceutical Association has established a loan fund for women students enrolled in the accredited colleges of pharmacy. Applications for loans may be made by women students who have maintained a satisfactory scholastic record in their colleges of pharmacy. The amount of the loan granted is determined on the basis of the need of the applicant, as shown by supporting recommendations from the Dean or other qualified officer of the College.

Ebert Loan Fund. In 1907, following the death of Mr. Albert E. Ebert, who had taken an active part in the development of the College of Pharmacy, the Alumni Association of the College established a fund in memory of Mr. Ebert. Later contributions were made by the Women's Organization of the Chicago Retail Druggists' Association to establish a loan fund. In 1931 the funds were combined into one known as the Albert E. Ebert Loan Fund. The Class of 1932 also contributed to this fund. Loans are made to deserving students.

Goldenrod Ice Cream Company Loan Fund. Established in 1943, through a gift from the Goldenrod Ice Cream Company of Chicago, this fund provides for loans to students.

Goldstine Emergency Loan Fund. This fund for emergency loans to students was established by the Board of Trustees in 1933. The name was changed in 1943 when the fund was increased by a gift from Mr. Harry Goldstine.

Organizations

Alumni Association of the College of Pharmacy

President — THOMAS G. CRAWFORD '24, 5727 N. Keating Ave., Chicago.

Vice-President — LLOYD E. THROCKMORTON '15, 600 Main St., Peoria.

Treasurer — RALPH E. TERRY '20, Box 559, R. R. 2, Naperville.

Secretary — SAMUEL SHKOLNIK '25, 111 W. Washington St., Chicago.

Trustees (in addition to the above officers) —

RAY MOORE '25, 5 South Main St., Harrisburg.

REED C. HENNINGER '29, 3 N. Longcommon Rd., Riverside.

JACK I. READER '26, 1001 E. 61st St., Chicago.

Representative (on General Alumni Board) —

THOMAS J. VRATNY, 1916 S. Racine Ave., Chicago.

Student Branch of the American Pharmaceutical Association

The Student Branch of the American Pharmaceutical Association is the only organization which offers professional membership to all students in the College of Pharmacy. The organization maintains an active professional program, and cooperates with the Chicago Branch of the A. Ph. A. in the development of the annual banquet of that organization. Approximately seventy per cent of the students enrolled in the College of Pharmacy are active members of the association. Seniors in good standing in the Student Branch at the time of their graduation are accorded full membership in the American Pharmaceutical Association until January 1 of the succeeding year.

Phi Mu Phi

Phi Mu Phi is an honorary musical fraternity open to students of the Chicago Professional Colleges who take an active part in the musical organizations.

Rho Chi

Phi Chapter of Rho Chi, national honorary pharmaceutical society, organized to promote the advancement of the pharmaceutical sciences, is located at the College of Pharmacy. Students who have completed 115 quarter hours of work with an average of at least 4.0 are eligible for membership.

Other Pharmaceutical Associations

The Chicago Branch of the American Pharmaceutical Association, composed of representative pharmacists of Chicago and vicinity, holds its monthly meetings at the College of Pharmacy. Students of Pharmacy are invited to attend.

The College of Pharmacy holds membership in the American Association of Colleges of Pharmacy. The object of the association is to promote the interests of pharmaceutical education, and all institutions holding membership must maintain certain minimum requirements for entrance and graduation. Through the influence of this association, higher standards of education have been adopted.

Plan of Instruction

Pharmacy is a health profession concerned with the selection, preservation, standardization, and preparation of drugs and medicinals. It is based on two groups of fundamental sciences, the physical and the biological.

Advancements in these sciences have contributed so much to the health professions that it is imperative for the pharmacist to be thoroughly trained in the fundamental sciences before undertaking the study of applied and professional subjects. Accordingly, the first three years of the curriculum in the College of Pharmacy are devoted to the physical and biological sciences and other subjects necessary to the practice of Pharmacy.

As there are several allied and related fields to which individuals with a pharmaceutical training are particularly adaptable, each student is permitted to elect specialized courses during his fourth year.

The College of Pharmacy offers a four-year curriculum, leading to the degree of Bachelor of Science in Pharmacy, as summarized on pages 25 and 26. The courses included in the basic curriculum are required of all students. Elective courses for the fourth year are determined through consultation with the class adviser.

Significance of Grades of the College of Pharmacy

The literal system of grading is used, with the following significance: A, excellent; B, good; C, fair; D, poor; E, failure. In computing averages, the literal grades have the following values: A = 5 (92 to 100%); B = 4 (85 to 91%); C = 3 (75 to 84%); D = 2 (70 to 74%); E = 1 (below 70%).

Failures must be removed by repeating those courses in which a grade of E is obtained.

The following schedule of progression, in terms of grade points earned, will apply to all students:

135 grade points before beginning the second year.

285 grade points before beginning the third year.

450 grade points before beginning the fourth year.

In order to qualify for graduation, a student shall have earned a minimum of 202 quarter hours, with a grade-point average of not less than 3.0. Students withheld from graduation on a basis of insufficient grade points shall earn the grade points necessary by the completion of new and additional course work. Any student who, at the end of the academic year, has failed to earn sufficient grade points for promotion to the next higher class, will be required to limit his schedule for the next period of registration. This limitation shall remain in force for each succeeding period of registration until full standing in the next ranking class is attained. No student will be permitted to register in any course a second time for the purpose of raising a previous grade of D.

Refusal of Further Registration on Account of Poor Scholarship. Any student who fails to attain a grade of D or better in 50 per cent of his program during any quarter, or who does not maintain a grade-point average of 2.25 or above, will be dismissed for poor scholarship. Any student who is refused further registration because of poor scholarship may petition the Executive Committee of the Faculty for readmission. Reconsideration of the case of a student dropped for poor scholarship does not guarantee readmission. A student may be reinstated only once.

Summary of Curriculum in Pharmacy

Basic Curriculum

FIRST YEAR										
	1st Quarter			2d Quarter			3d Quarter			Total
	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.	Cr.
English 120, 121, 122.....	3	0	3	3	0	3	3	0	3	9
Mathematics 140, 141, 142.....	3	0	3	3	0	3	3	0	3	9
Chemistry 143, 144, 145.....	4	3	5	4	3	5	3	6	5	15
Sociology 123.....	3	0	3	.....	.....	.....	.....	.....	.....	3
Zoology 161, 162.....	.....	.....	.....	2	4	4	3	6	5	9
Pharmacy 100, 101, 102.....	2	0	2	2	0	2	2	2	3	7
Hygiene 160.....	1	0	0	.....	.....	.....	.....	.....	.....	0
	16	3	16	14	7	17	14	14	19	52
SECOND YEAR										
Chemistry 146.....	4	6	6	.....	.....	.....	.....	.....	.....	6
Physics 150, 151, 152.....	3	3	4	3	3	4	3	3	4	12
Pharmacy 103, 104, 105.....	2	4	4	2	4	4	2	4	4	12
Economics 124.....	3	0	3	.....	.....	.....	.....	.....	.....	3
Psychology 125.....	.....	.....	.....	3	0	3	.....	.....	.....	3
Chemistry 147, 148.....	.....	.....	.....	4	6	6	4	6	6	12
Zoology 163.....	.....	.....	.....	.....	.....	.....	2	6	4	4
	12	13	17	12	13	17	11	19	18	52
THIRD YEAR										
Pharmacognosy 290, 291, 292...	2	6	4	2	6	4	2	6	4	12
Pharmacy 200, 201, 202.....	2	3	3	2	3	3	2	3	3	9
Chemistry 240.....	4	3	5	.....	.....	.....	.....	.....	.....	5
Chemistry 241, 242.....	.....	.....	.....	3	6	5	3	6	5	10
Bacteriology 280, 281.....	3	6	6	2	0	2	.....	.....	.....	8
Physiology 260, 261.....	.....	.....	.....	3	3	4	3	3	4	8
	11	18	18	12	18	18	10	18	16	52
FOURTH YEAR										
Pharmacology 262, 263, 264.....	4	0	4	4	2	4	3	3	4	12
Pharmacy 203, 204, 205.....	3	0	3	3	0	3	1	4	3	9
Chemistry 243.....	4	0	4	.....	.....	.....	.....	.....	.....	4
Chemistry 244.....	.....	.....	.....	2	6	4	.....	.....	.....	4
Pharmacy 220.....	.....	.....	.....	.....	.....	.....	4	0	4	4
	11	0	11	9	8	11	8	7	11	33
Electives.....	5 - 7			5 - 7			5 - 7			15-21
Basic curriculum 189 hours.										

Elective Subjects Available to Senior Students

	Didactic	Laboratory	Credit Hours
First Quarter:			
Accounting 220.....	2	3	3
Chemistry 346.....	2	9	5
Chemistry 245.....	4	0	4
Entomology 270.....	3	3	4
Second Quarter:			
Pharmacy 221.....	4	0	4
Pharmacy 207.....	1	6	3
Chemistry 340.....	4	3	5
Zoology 304.....	3	3	4
Pharmacognosy 301.....	2	9	5
Pharmacognosy 310.....	2	3	3
Third Quarter:			
Pharmacy 208.....	1	6	3
Pharmacy 206.....	1	6	3
Chemistry 349.....	2	9	5
Chemistry 343.....	2	9	5
Pharmacognosy 302.....	3	6	5
Pharmacognosy 311.....	1	6	3

Preregistration of students to complete the senior year will be held subsequent to the completion of the junior year. Students will be asked to indicate their desires and objectives in terms of: (1) graduate study and training; (2) study areas of particular interest.

The following elective programs are recommended:

A. For students not planning to undertake graduate study:

First Quarter	Second Quarter	Third Quarter
Accounting 220	Principles of Marketing 221	Pharmacy 208
Entomology 270	Manufacturing Processes 207	Hospital Pharmacy 206
B. For students anticipating graduate training in Pharmacy:		
Chemistry 245	Manufacturing Processes 207	Analytical Chemistry 349
Entomology 270	Physical Chemistry 342	Hospital Pharmacy 206
C. For students anticipating graduate training in Chemistry:		
Chemistry 346	Physical Chemistry 342	Analytical Chemistry 349
D. For students anticipating graduate training in the Biological Sciences:		
Entomology 270	Genetics 304	Plant Physiology 302
Chemistry 245	Plant Anatomy 301	

Courses of Instruction

The following list of subjects is arranged in alphabetical order. The description of each course includes a statement of the number of lecture, recitation, or laboratory periods each week (each period being one clock hour unless otherwise specified). The total clock hours, with their distribution in didactic and laboratory work, are shown in the summary of the curriculum, which also shows the credit in quarter hours. In the description of each course the quarter during which it is given is indicated by a

Roman numeral, "I" for the first quarter, "II" for the second quarter, and "III" for the third quarter, followed by an Arabic numeral in parenthesis indicating the number of credit hours. For example, "I, (3)" means that the course is given in the first quarter for three hours of credit. The expression "I, II, or III" is used if the course may be taken in any quarter.

ACCOUNTING

220. *Principles of Accounting*. Fundamentals of accounting practice with special application to requirements of the retail pharmacy. Two lectures or recitations and one 3-hour laboratory period each week. III, (3). May be elected in senior year only.

BACTERIOLOGY

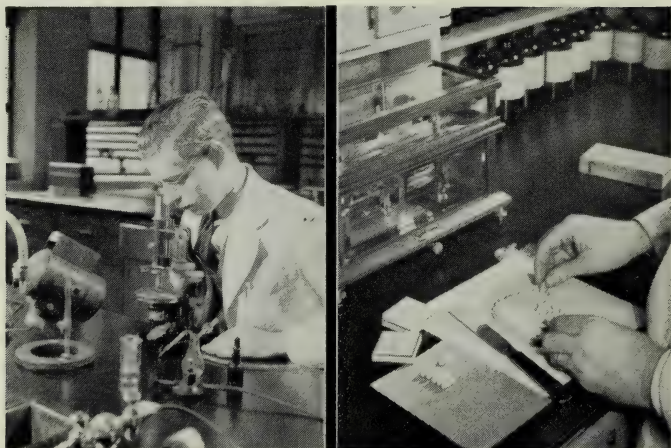
280. *General Bacteriology and Microbiology*. Characteristics of bacteria, yeasts, and molds; their relation to disease; biologic products prepared from them; action of antiseptics, disinfectants, and sterilizants; cleaning and sterilizing glassware; preparation of culture media and staining solutions; preparation of cultures and stained mounts; isolation and identification of organisms from mixed cultures; milk and water counts; disinfectant standardization; antibiotics. Three lectures and three 2-hour laboratory periods each week. II, (6).

281. *General Bacteriology and Microbiology*. Continuation of Course 280. Viruses, bacteriophage, pathogenic protozoa and metozoa, mycology and pathogenic fungi, epidemiology and control of communicable diseases and public health administration. Two lectures or recitations each week. III, (2). Prerequisite: Bacteriology 280.

CHEMISTRY

143, 144, 145. *General Chemistry and Qualitative Analysis*. A study of the fundamental concepts of physical science; the physical laws as they are needed for the continuing study of chemistry; theories of atomic and molecular structure; the periodic properties of the elements; the formation of compounds; descriptive chemistry; properties of positive and negative ions, and the reactions utilized in the systematic separation and identification of them; practice in equation writing and the solution of problems. Four lectures or recitations and one 3-hour laboratory period each week. I, (5) and II, (5). Three lectures or recitations and two 3-hour laboratory periods each week. III, (5).

146. *Quantitative Analysis*. Theories and technic of gravimetric and volumetric analysis. Whenever possible the methods of the U.S.P. are used to illustrate their application, and pharmaceutical or medicinal products are used for practical examinations. Four lectures or recitations and



two 3-hour laboratory periods each week. I, (6). Prerequisite: Chemistry 145 or its equivalent, and Mathematics 140, 141, 142.

147, 148. *Organic Chemistry*. Nomenclature, occurrence, general methods of preparation, type reactions, and special reactions of acyclic, alicyclic, and aromatic hydrocarbons; their oxygen, halogen, nitrogen, and sulfur derivatives; proteins, carbohydrates; the simpler oxygen, nitrogen, and sulfur heterocyclics. Four lectures or recitations and two 3-hour laboratory periods each week. II, (6) and III, (6). Must be taken in sequence. Prerequisite: Chemistry 145 or its equivalent, and Mathematics 140, 141, 142.

240. *Physical Chemistry*. An introductory course outlining the scope of the field and the relationships and applications to other fields of science.

- Four lectures or recitations and one 3-hour laboratory period each week. I, (5). Prerequisite: Chemistry 146 and 148 or their equivalents.
- 241, 242. *Biological Chemistry*. Course material equivalent to Biological Chemistry 301 in the College of Medicine. II and III, (10). Must be taken in sequence. Prerequisite: Chemistry 146 and 148 or their equivalents.
244. *Drug Assaying*. Principles and methods of drug standardization applied to substances included in the U.S.P. Preparation and standardization of volumetric solutions; assays of alkaloid-bearing drugs, essential oils, aldehydes and phenol; determination of alcohol in pharmaceutical preparations; acid, saponification, and iodine values of fats; refractive index and specific rotation. Two lectures or recitations and two 3-hour laboratory periods each week. II, (4). Prerequisite: Chemistry 146 and 148 or their equivalents.
245. *Chemistry of Natural Products*. A study of the occurrence, origin, biological significance, nomenclature, physical and chemical properties, methods of isolation and pharmaceutical uses of important natural substances such as sugars, sugar alcohols, polyhydroxy acids, gums, mucilages, pectins, glycosides, fats, waxes, sterols, hormones, vitamins, enzymes, essential oils and resins. II, (4). May be elected in senior year only. Prerequisite: One year of organic chemistry.
340. *Physical Chemistry*. (Second course.) A study of theoretical and applied electrochemistry and the chemistry of colloids. Four lectures or conferences and one 3-hour laboratory period each week. II, (5). May be elected in senior year only. Prerequisite: Chemistry 240 or its equivalent.
342. *Chemistry of Synthetic Drugs*. A study of modern synthetic drugs with regard to their nomenclature, methods of synthesis, relation to other drugs having similar therapeutic properties, physical and chemical properties. Four lectures each week. I, (4). Prerequisite: One year of organic chemistry.
343. *Chemical Toxicology*. A course concerned with the common sources, chemistry of the physiological action, methods of isolation, and identification of toxic agents commonly encountered as industrial hazards and as the cause of accidental or purposeful poisoning. Two lectures and two 3-hour laboratory periods each week. III, (4). May be elected in senior year only. Prerequisite: One year of organic chemistry and concurrent registration in Pharmacology.
346. *Synthesis of Drugs*. Continuation of the study of organic chemistry and the applications of the type reactions to the manufacture of organic medicinal chemicals and their intermediates. Barbital, cinchophen, acetophenetidin, phenolphthalein, tryparsamide, hexylresorcinol, guaiacol, methylene blue, or others may be selected in consultation with the instructor. Reference to the original work on the substance elected is encouraged. Two lectures or recitations and three 3-hour laboratory

periods each week. II, (5). May be elected in senior year only. Prerequisite: Chemistry 148 or its equivalent.

349. *Pharmaceutical Assaying*. Chemical and physical methods of analysis of raw materials and dosage forms of medication involving the principles of sampling and quantitative separation of active compounds from inactive diluent or vehicle or from other active components. Two lectures or conferences and three 3-hour laboratory periods each week. II or III, (5). May be elected in senior year only. Prerequisite: Chemistry 244.

350. *Instrumental Analysis*. The principles, methods, and techniques of analytical chemistry using modern electrical and electronic instruments. Three lectures and two 3-hour laboratory periods each week. III, (5). May be elected in senior year only. Prerequisite: Chemistry 146, 148, 240, and Physics 152.

(See Graduate College catalog for courses offered to graduate students.)

ECONOMICS

124. *Economics*. Principles of Economics. Principles of production, supply, demand, value, price, distribution. Three lectures or recitations each week. I, (3).

ENGLISH

120, 121, 122. *English Composition*. Practice in writing, reading, note-taking, and organizing material related to the work in other courses. Three class periods each week. I, (3); II, (3); and III, (3). A passing grade in English 120 is prerequisite to registration in English 121, etc.

ENTOMOLOGY

270. *Fundamentals of Insect Control*. A consideration of the Class Insecta with emphasis on the members of economic and public health importance. Insect characteristics are related to economic and public health factors and to standard procedures of control. Application of chemical insecticides and the position of the pharmacist in the distribution of insecticidal poisons will receive particular attention. Three lectures and one 3-hour laboratory period each week. I, (4). May be elected in senior year only.

HYGIENE

160. *Hygiene*. An introductory survey of individual, environmental, and social factors influencing the maintenance of health. One lecture-discussion each week. I, (0).

LANGUAGES

German or French. During their senior year students may elect German or French in any college or university accredited by the University of Illinois, and may present not more than twelve quarter hours of either

language for advanced credit in lieu of other electives, provided that approval of the executive committee is secured.

MATHEMATICS

140, 141, 142. *Elementary Mathematical Analysis*. A three quarter course designed to provide background for required science courses and to serve as a terminal course in mathematics for pharmacy students. I, (3); II, (3); and III, (3). A passing grade in Mathematics 140 is prerequisite to registration in Mathematics 141, etc.

PHARMACOGNOSY

290, 291, 292. *Principles of Pharmacognosy*. A lecture, laboratory, and field study of the fundamental botany and pharmacognosy of the principal drugs of vegetable and animal origin. Related products of economic importance bearing upon the health of man and animal will be considered. Two lectures and two 3-hour laboratory periods each week. I, (4); II, (4); and III, (4).

301. *Plant Anatomy*. A microscopic study of the structure of vascular plants with particular attention to the development and evaluation of the vascular systems in all parts of the plant. Two lectures and three 3-hour laboratory periods each week. II, (5). May be elected in senior year only. Prerequisite: Pharmacognosy 292.

302. *Plant Physiology*. A study of life processes in plants, with particular attention to the cell as the fundamental functional unit. The basic principles of plant metabolism will be emphasized in relation to essential elements, energy relationship, and other environmental factors. Three lectures or conferences and two 3-hour laboratory periods each week. III, (5). May be elected in senior year only. Prerequisite: Pharmacognosy 301.

310. *Crystallography*. A study of basic crystal morphology, the principles of optical crystallography, and an introduction to the practical application of these studies. Two lectures and one 3-hour laboratory period each week. II, (3). May be elected in senior year only.

311. *Chemical Microscopy*. The application of the principles of crystallography and of microchemistry to the identification of organic and inorganic chemicals. Special attention will be given to alkaloids, glycosides, and other materials of biological and pharmaceutical interest. One lecture and two 3-hour laboratory periods each week. III, (3). May be elected in senior year only.

(See Graduate College catalog for courses offered to graduate students.)

PHARMACOLOGY

262. *Pharmacology*. A consideration of the factors underlying the application of pharmacologic principles and agents to therapeutic problems. Lec-

ture-discussions will be pointed to an understanding of the problems involved in the development and standardization of drug agents, of the basic tissue responses to drug action and drug injury, and of the fundamental sites of drug action. Four lectures each week. I, (4). Prerequisite: Physiology 261, Chemistry 242, Bacteriology 281, Pharmacognosy 292.

263. *Pharmacology*. A systematic consideration of the pharmacologic action and therapeutic implications of the principal drug agents, and the role of pharmacology in establishing rational principles of therapy. Four lectures and one 2-hour demonstration period each week. II, (4). Prerequisite: Pharmacology 262.
264. *Pharmacology*. An extension of the application of pharmacologic principles in the fields of chemotherapy, antibiotic drugs, and toxicology. Three lectures and one 3-hour laboratory period each week. III, (4). Prerequisite: Pharmacology 263.

PHARMACY

100. *Introductory Pharmacy*. An orientation course covering the scope, historical development, and literature of pharmacy. Two lectures or recitations each week. I, (2).
101. *Pharmaceutical Weights and Measures*. Nomenclature and definitions of the systems of weights and measures used in pharmacy, relationships of the various systems, and the calculations involved. Two lectures or recitations each week. II, (2). Prerequisite: Pharmacy 100.
102. *Pharmaceutical Processes*. A study of pharmaceutical processes and manipulations, definitions, and nomenclature. Laboratory work consists of experiments to illustrate the important pharmaceutical techniques. Two lectures or recitations and one 2-hour laboratory period each week. III, (3). Prerequisite: Pharmacy 101.
103. *Galenical Pharmacy I*. A discussion of official and non-official galenical pharmaceuticals; aromatic waters, solutions, syrups, elixirs, and related types of preparations. The laboratory work includes manufacture of representative examples of each type. Two lectures and two 2-hour laboratory periods each week. I, (4). Prerequisite: Pharmacy 102.
104. *Galenical Pharmacy II*. Lectures consist of discussion of official and non-official galenical pharmaceuticals of the following classes: colloids, glycerites, liniments, oleates, emulsions, infusions, decoctions, tinctures, fluidextracts, resins and extracts, powders, triturations, and effervescent salts. Laboratory work follows lectures closely. Two lectures and two 2-hour laboratory periods each week. II, (4). Prerequisite: Pharmacy 103.
105. *Galenical Pharmacy III*. Discussion of official and non-official galenical pharmaceuticals of the following classes: ointments, pastes, creams,

cerates, cataplasms, suppositories, capsules, pills, troches, tablets, etc. Laboratory work consists of the manufacture of selected examples of these classes of preparations. Two lectures and two 2-hour laboratory periods each week. III, (4). Prerequisite: Pharmacy 104.

200. *Dispensing of Inorganic Materials*. Consideration of the pharmaceutical, medical, and technical uses of official inorganic materials, including reactions giving incompatibilities in prescription compounding. Laboratory work consists of selected experiments demonstrating principles discussed in the lectures. Two lectures and one 3-hour laboratory period each week. I, (3). Prerequisite: Pharmacy 105, Chemistry 146.
201. *Dispensing of Organic Materials*. Consideration of the pharmaceutical, medical, and technical usage of official organic materials, including reactions giving incompatibilities in prescription compounding. Laboratory work consists of selected experiments demonstrating principles discussed in the lectures. Two lectures and one 3-hour laboratory period each week. II, (3). Prerequisite: Pharmacy 200.
202. *Dispensing Technics*. Lectures and laboratory work in technics of dispensing prescriptions, nomenclature, reading of difficult sample prescriptions, and basic incompatibility problems. Two lectures and one 3-hour laboratory period each week. III, (3). Prerequisite: Pharmacy 201.
203. *Advanced Dispensing I*. Discussion of principles involved in complex pharmaceutical preparations and development of dispensing technics applied to current products. Three lectures each week. I, (3). Prerequisite: Pharmacy 202.
204. *Advanced Dispensing II*. Discussion of the special topics of manufacturing pharmacy, clinical reagents, surgical supplies, dental and veterinary pharmacy, insecticides and rodenticides, and biological products as related to handling and dispensing problems. Three lectures each week. II, (3). Prerequisite: Pharmacy 203.
205. *Advanced Dispensing III*. Discussion and experimental laboratory development of problems of dispensing isotonic, buffered and collyria solutions, colloids, emulsions, and suspensions, with study of representative prescription specialties illustrating these types of preparations. One lecture and two 2-hour laboratory periods each week. III, (3). Prerequisite: Pharmacy 204.
206. *Hospital Pharmacy*. Fundamentals of hospital pharmacy management. One conference period and six hours in the hospital pharmacy each week. II, (3). May be elected in the senior year only.
207. *Manufacturing Processes*. Manufacture of pharmaceutical products and parenteral solutions on a semi-commercial scale, including analytical control of raw materials and the finished preparations. One conference

period and six laboratory hours each week. III, (3). May be elected in the senior year only.

208. *Cosmetic Technology*. Composition, formulation, and manufacture of selected types of cosmetics such as face, tooth, talcum, and foot powders, cold and vanishing creams, hand lotions, rouges, lipsticks, bath salts, etc. Problems of perfuming, coloring, packaging, and preservation are considered. Representative types of these products are made during the laboratory periods. One lecture and six hours of laboratory each week. III, (3). May be elected in senior year only.

220. *Pharmaceutical Jurisprudence*. Laws and regulations relating to the practice of pharmacy; principles of common law bearing upon the work and responsibilities of the pharmacist. Four lectures each week. III, (4). Prerequisite: Senior standing.

221. *Marketing*. Principles of Marketing. The policies and problems involved in the manufacturing, wholesaling, and retailing of drugstore merchandise. Four lectures each week. II, (4). May be elected in senior year only. Prerequisite: Economics 124, Accounting 220.

(See Graduate College catalog for courses offered to graduate students.)

PHYSICAL EDUCATION

NOTE: In addition to the work offered in Physical Education, an extensive intramural athletic program for men is in operation. Intercollegiate athletics are limited to basketball at present. A small gymnasium, athletic field, and two tennis courts are open daily. Recreational swimming and handball are offered free to male students at the Duncan YMCA. Women students are offered use of the West Side YWCA and access to archery and table tennis equipment at the Illini Union Building.

Physical Education Practice. The measurement, development, and maintenance of physical fitness in accordance with each student's needs and abilities. Two hours each week. Elective at any time during the four years.

PHYSICS

150, 151, 152. *General Physics*. Mechanics, heat, sound, electricity, magnetism, light, and atomic physics. Two lectures, one recitation, and one 3-hour laboratory period each week. I, (4); II, (4); and III, (4). Prerequisite: Mathematics 140, 141, and 142, or their equivalents.

PHYSIOLOGY

260. *Human Physiology*. Physiology of blood, including spleen; heart and circulation; respiration; gastrointestinal tract and liver; kidney, skin, and water balance. Three lectures or recitations and one 3-hour laboratory period each week. II, (4). Prerequisite: Junior standing.

261. *Human Physiology*. Physiology of endocrines, heat regulation, nutrition, and metabolism; muscle and nerve; central nervous system and autonomic nervous system; and senses. Three lectures or recitations and one 3-hour laboratory period each week. III, (4). Prerequisite: Physiology 260.

PSYCHOLOGY

125. *Psychology*. Introduction to Psychology. Introductory analysis and description of human behavior, with special reference to observation, learning, memory, thinking, emotional life, and personality development. Three lectures each week. II, (3). Prerequisite: Zoology 161 and 162, Sociology 123.

SOCIOLOGY

123. *Sociology*. A systematic study of the fundamental aspects of human society, personality, social organization, social change. Three lectures each week. I, (3).

ZOOLOGY

161. *General Zoology*. An introductory course stressing the basic biologic principles of cytology, metabolism, embryology, anatomy, genetics, and evolution as illustrated by the major animal phyla. Two lectures and two 3-hour laboratory periods each week. II, (4).
162. *Mammalian Zoology*. The structure, as correlated with function, of man as a typical mammal, using the cat for laboratory dissection. Three lectures and two 3-hour laboratory periods each week. III, (5). Prerequisite: Zoology 161.
163. *Mammalian Histology*. A study of the fundamental microscopic anatomy of tissues, organs, and organ systems. Correlation between structure and function is emphasized. Two lectures and two 3-hour laboratory periods each week. III, (4). Prerequisite: Zoology 162.
304. *Genetics*. This course will consider the fundamental principles of biological inheritance, and the application of these in the study of plant and animal life. Three lectures and one 3-hour laboratory period each week. II, (4). May be elected in senior year only. Prerequisite: Zoology 162 or equivalent.

(See Graduate College catalog for courses offered to graduate students.)

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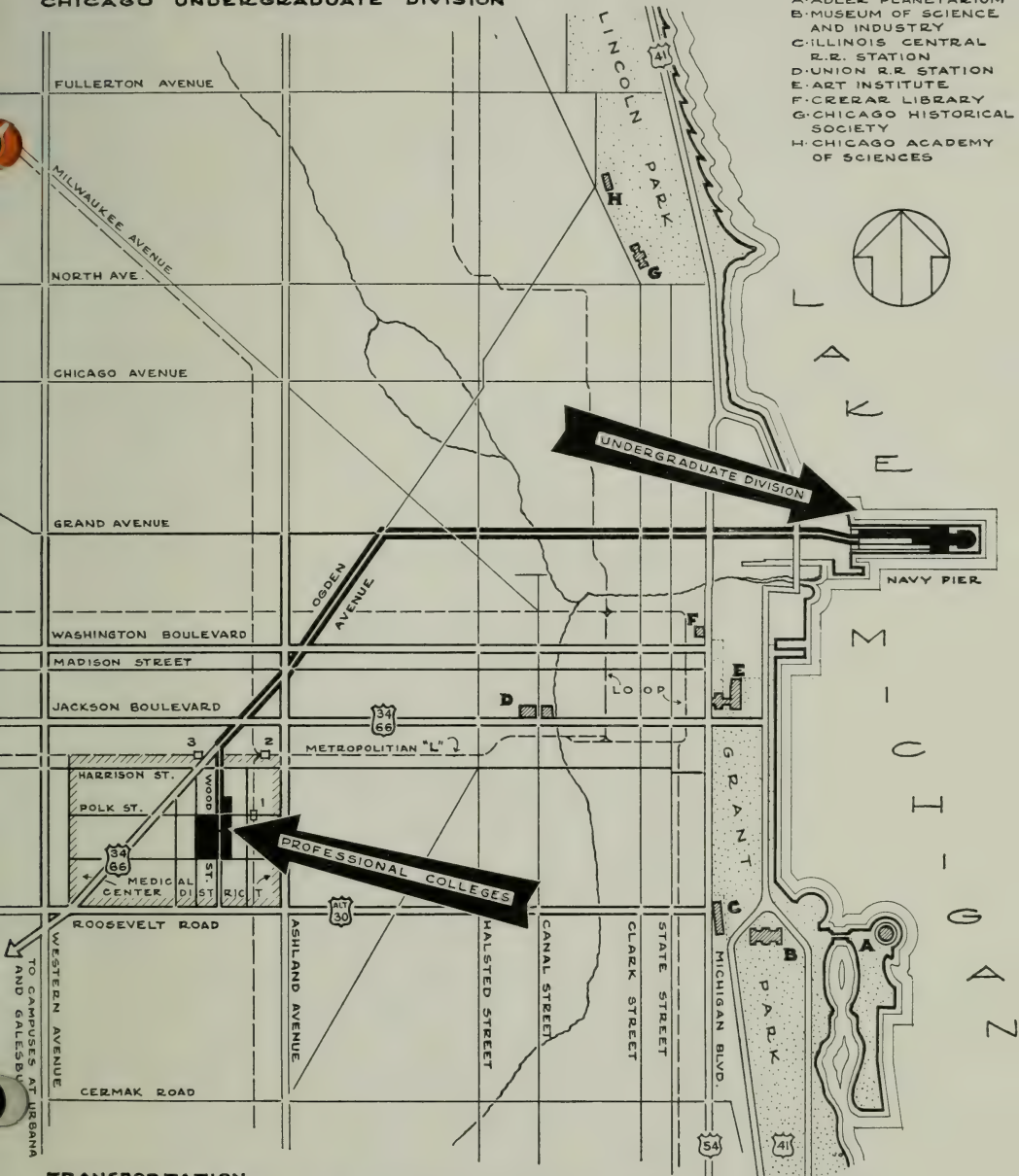
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UNIVERSITY OF ILLINOIS

CHICAGO PROFESSIONAL COLLEGES
CHICAGO UNDERGRADUATE DIVISION

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- E-ART INSTITUTE
- F-CRERAR LIBRARY
- G-CHICAGO HISTORICAL SOCIETY
- H-CHICAGO ACADEMY OF SCIENCES



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TRANSFER STONY ISLAND STREET CAR.

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College of
PHARMACY

Catalog 1953 1955

University of Illinois



The cover shows the architect's model of the new East Unit of the Dentistry-Medicine-Pharmacy Building into which the College of Pharmacy will move in 1954.

University of Illinois

College of **PHARMACY**
catalog 1953-1955

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1953/55

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Calendar

1953 — FALL QUARTER

September 28, Monday	First day of classes.
November 26, Thursday	Thanksgiving Day.
December 18, Friday	Fall quarter ends.

1954 — WINTER QUARTER

January 4, Monday	First day of classes.
March 26, Friday	Winter quarter ends.

1954 — SPRING QUARTER

April 5, Monday	First day of classes.
May 31, Monday	Memorial Day holiday.
June 18, Friday	Commencement Exercises.

1954 FALL QUARTER

September 27, Monday	First day of classes.
November 25, Thursday	Thanksgiving Day.
December 17, Friday	Fall quarter ends.

1955 — WINTER QUARTER

January 3, Monday	First day of classes.
March 25, Friday	Winter quarter ends.

1955 — SPRING QUARTER

April 4, Monday	First day of classes.
May 30, Monday	Memorial Day.
June 17, Friday	Commencement Exercises.

1955 — FALL QUARTER

September 26, Monday	First day of classes.
November 24, Thursday	Thanksgiving Day.
December 16, Friday	Fall quarter ends.

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 WHEELER, DOROTHEA M., Pharmacy Reference Librarian in the Library of Medical
 Sciences, with the rank of Instructor
 WINZLER, RICHARD J., Ph.D., Professor of Biological Chemistry and Head of the
 Department
 ZIBRIDA, JOHN A., B.S., Registered Pharmacist in Hospital Pharmacy
 ZIELESCH, MARGUERITE, M.S., Instructor in Physics

College of **PHARMACY**

Location, History, and Administration

Location

The College of Pharmacy of the University of Illinois is located in the great medical center on the west side of Chicago. The work of the College, together with the related work in the Colleges of Medicine and Dentistry and the Graduate College, is centralized in the Dentistry-Medicine-Pharmacy Building, facing on Polk, Wood, and Wolcott Streets. The campus, which is about three miles from the Loop, or main business district of the city, can be reached conveniently by elevated train, street car, or automobile.

The University buildings contain the administrative offices of the College, the library, several museums, many classrooms and large laboratories for class work, and numerous smaller laboratories for individual research projects.

The Research and Educational Hospitals and the Illinois Eye and Ear Infirmary provide excellent facilities for the teaching of Hospital Pharmacy to both undergraduate and graduate students.

The Drug Plant Experiment Station, located at Lisle, Illinois, provides a unique opportunity for the development of drug plant research and the training of graduate students who are majoring in the field of Pharmacognosy. The facilities of the Station are augmented by the very extensive plant culture programs of the Morton Arboretum.

History

The College of Pharmacy was originally an independent proprietary institution before becoming affiliated with the University of Illinois. It is by far the oldest, having been organized as the Chicago College of Pharmacy on September 5, 1859, eight years before the University itself was incorporated. It was the third institution of its kind in the United States. Activities were suspended during the Civil War, and the College was not reopened until 1870. When its property was destroyed by the Chicago fire of 1871, the pharmacists of the world promptly came to the rescue, those of Great Britain in particular. They enabled the College to reopen again in 1872, with new equipment, including a library, much better than ever before. In 1896, it became the School of Pharmacy of the University of Illinois, and in 1932 its name was changed to the College of Pharmacy, when the curriculum leading to the degree of Bachelor of Science in Pharmacy was announced. In 1939-1940 the College of Pharmacy was moved from its former quarters, 715 South Wood Street, to the Dentistry-Medicine-Pharmacy Building at 808 South Wood Street.

Teaching and research facilities of the College will be greatly expanded upon completion and occupancy of a new \$5,540,000 classroom and laboratory building prior to the opening of the fall quarter of 1954. The new six-story East Unit of the Dentistry-Medicine-Pharmacy Building at 833 South Wood Street will provide administrative and general offices for the College of Pharmacy, two temporary lecture halls seating 200 students each, one seating 100, seven classrooms seating 50 each, manufacturing, research, teaching, and dispensing laboratories in pharmacy, storage space for both teaching and research materials, and space for 800 student lockers. With the added teaching facilities, the College of Pharmacy is planning the establishment of a postgraduate teaching program, which will enable the University to render state-wide services to the 4,200 retail drugstores and the 7,000 practicing pharmacists in Illinois.

Graduate work has been offered in the Chicago departments since 1915. The present work of the Graduate College is described in detail in a separate announcement.

Administration

Under the laws of the state of Illinois, the Board of Trustees of the University of Illinois is composed of eleven members, including the Governor and the Superintendent of Public Instruction who serve *ex officio*, nine members being elected by the people of the state for terms of six years.

Under the University Statutes adopted by the Board of Trustees, the affairs of the University are administered by the President, the Provost, the Vice-President, the Deans and Directors of the Colleges and Schools, and other administrative officers, most of whom are located on the main campus of the University at Urbana. The Chicago departments are organized in three colleges — Dentistry, Medicine, and Pharmacy — each college having its own Dean, and all being under the general supervision of the Vice-President.

The University Senate is composed of members of the faculty who have full professorial rank and others who are in charge of departments, both at Urbana and in Chicago.

Members of the faculty in each college cooperate with those in other colleges of the University, both in instruction and in research. Staff members of the basic science departments in the College of Medicine also give instruction for students of dentistry, pharmacy, and occupational therapy.

Accreditation

The College of Pharmacy of the University of Illinois is fully accredited as a Class A College by the American Council on Pharmaceutical Education. The Council is the only accrediting agency for the profession of Pharmacy, and is an affiliate of the American Council on Education.

Library and Museums

The library contains a comprehensive collection of standard and modern works on medical, dental, and pharmaceutical subjects, with over 1,100 current periodicals and more than 100,000 books. It is used by professional men throughout the Chicago area, and its service to the University staff and students is supplemented by loan arrangements with other libraries. The College of Pharmacy has a museum including more than 10,000 specimens of crude drugs and technical products. One collection is classified according to botanical origin, and is arranged in cases illustrating habitat, commerce, etc. Another collection contains every drug officially listed in the United States Pharmacopoeia since 1820 or in the National Formulary since 1888.

Recreational Facilities

The social and recreational center for students, alumni, and faculty members is the Chicago Illini Union Building, 715 South Wood Street. Its facilities include a cafeteria, grill, soda fountain, browsing room, music room, gymnasium, meeting rooms, and game rooms. Intramural sports under a trained director are encouraged, and facilities and equipment are available for softball, touch football, horseshoes, tennis, archery, wrestling, fencing, badminton, basketball, handball, and ping pong. Through special arrangements, the swimming pools of the nearby YMCA and YWCA are available to students.

Requirements for Admission

Applications for admission to the College of Pharmacy should be addressed to the Examiner and Recorder, 833 South Wood Street, Chicago 12. Official credentials, covering all collegiate and secondary school work done by the applicants, must be sent directly from each institution attended. Credentials accepted for admission become the property of the University and are kept permanently in the files. Since space limitations make it necessary to restrict enrollment, applicants should have their credentials mailed to the Examiner and Recorder as early as possible. Applications must be completed between January 1 and May 31 of each year. New classes enroll only in the fall, usually late in September.

Age. The minimum age for admission is sixteen years.

Health Certificates. For each applicant whose record meets the requirements for admission, or who appears likely to meet them before the opening of the school year when he desires to enroll, the health officer at the last institution attended will be requested to furnish a certificate concerning the applicant's health. When the health service of an institution can not supply the desired information, the applicant should have his family physician send in a report on his physical condition. If a student's application for admission is approved at a date so late as to make it impossible to obtain a health certificate before classes begin, he may be registered temporarily, pending a satisfactory report from the University Health Service.

High School Requirements. Applicants must be graduates of an accredited high school offering a full four-year course, or pass an entrance examination covering any high school deficiencies. Fifteen of the units required for high school graduation must include two majors (of three units each) and one minor (of two units) from the fields of English, foreign language,

mathematics, science, and social studies, with a total of at least nine units from these fields. One major must be English. At least two units must be in mathematics, including algebra and plane geometry. The six remaining units necessary for admission may be selected from any of the high school subjects which are accepted by an accredited high school toward its diploma and which meet the standards for accrediting, as defined by the University of Illinois. Two units of science (including biology) and two units of social studies are desirable, although not required.

Selection of Applicants. As the capacity of the College of Pharmacy is limited, selection of applicants is necessary. Selection is made by a Committee on Admissions. In order to be considered for admission, a student must be eligible to return to the last institution attended, and if he has completed twelve or more semester hours of college credit, he must have maintained at least a C average, exclusive of Freshman Hygiene, R.O.T.C., and Physical Education.

Applicants who meet in full the course and grade-average requirements will be notified to appear for aptitude tests and interviews. In selecting applicants, the Committee will take into consideration the candidate's personal qualifications, including such factors as his interest in the profession of Pharmacy, scholastic records from schools and colleges previously attended, recommendations from teachers and employers, health records, aptitude tests, and interviews. Applicants will receive formal notification of the action of the Committee on Admissions.

Renewing Applications. An applicant who has been accepted for admission, but fails to enroll, and who wishes to enter in a subsequent year, must reapply for admission and must meet all the requirements in force at the time of the new application. Students who fail to gain admission may reapply after January 1 of the following year.

Admission with Advanced Standing. Each applicant, even though submitting advanced credits from an accredited college or university, must appear for aptitude tests and personal interviews. All applicants are selected on a competitive basis. The College of Pharmacy accepts as transfer credits such liberal arts courses as are required for the degree of Bachelor of Science in Pharmacy, provided the grade attained by the student is C or better, and further, that not more than five years has elapsed between the completion of the course and the registration for the next course in logical sequence. This latter requirement may be waived, provided the student, by examination, demonstrates proficiency in the subject for which he may request advanced credit. Certain technical courses in Pharmacy are required during the freshman year of the

curriculum. Hence, no student can receive full credit for his freshman year in another college or university which does not offer technical courses in Pharmacy in the freshman year.

Any student who wishes to transfer from another college of pharmacy, who can not complete the requirements for a Bachelor of Science degree in Pharmacy in three years or less, must compete for admission to the Freshman Class.

Deposit. Each applicant who is assigned a place in any class in the College of Pharmacy is required to make a deposit of \$15 within two weeks of the date of notification that he will be admitted. This deposit will be applied on fees assessed against him at the time of registration. Failure to pay this deposit within the specified time will subject the applicant to forfeiture of his place. No deposit will be returned unless the applicant notifies the Examiner and Recorder, at least thirty days before the time for registration, that he will not be able to enter. The Director of Admissions and Records is authorized to make refunds after that time when, in his judgment, the circumstances so justify.

Physical Examination. Each applicant who is accepted for admission must report to the University Health Service for a physical examination before registration. Appointments for this examination are usually made in the month preceding registration. Each applicant is also urged to report to his family physician and dentist for a complete examination, including Schick and Dick reactions and smallpox vaccination. The applicant's eyes should also be examined and fitted with glasses, if needed. A statement from the family physician regarding findings and immunization procedures should be forwarded to the Health Service of the University.

Requirements for Graduation

A candidate for the degree of Bachelor of Science in Pharmacy must meet the following general requirements: (1) show evidence of good moral character, (2) pay all indebtedness to the University, (3) obtain passing grades in all courses of the required curriculum, and (4) have completed the Pharmacy curriculum of 202 quarter hours or more, with a minimum average of C, equivalent to a minimum grade-point average of 3.0 for the total number of hours of work in the College of Pharmacy, including work taken elsewhere and accepted for advanced credit. Either the first three years of work, or the last year, must be done in the College of Pharmacy.

Bachelor of Science Requirements for Ph.C. Graduates

Graduates of the University of Illinois College of Pharmacy with the degree of Pharmaceutical Chemist may apply for readmission to the College for courses leading to the degree of Bachelor of Science in Pharmacy. Approved candidates shall be required to complete a program of courses designed (a) to supplement existing deficiencies in fundamental and basic subjects and (b) to develop in the candidate a contemporary level of knowledge embodied in advanced professional subjects from the current curriculum of the College of Pharmacy.

No general statement of requirements is applicable, and each such application will be subject to evaluation and approval by the Executive Committee of the College of Pharmacy.

State Registration of Pharmacists

An amendment to the Illinois Pharmacy law in effect July 1, 1917, provides that a candidate for the certificate of registered pharmacist must have attained the age of twenty-one years or over; must be of good moral character and temperate habits; must be a graduate from a school of pharmacy recognized by the State Department of Registration and Education; must have had four years' experience in Pharmacy; and must have passed the examination given by the State Board of Pharmacy.

There is also a provision whereby persons may register by reciprocity with other states in which they hold certificates of registration. There are forty-six states that reciprocate with Illinois in this way. Certain rules must be complied with, certain fees paid, and the application should be made to the National Association of Boards of Pharmacy. Details will be furnished by the Dean's office on request.

Particular attention is called to the clause regarding practical experience. Actual time of attendance at a recognized school of pharmacy, but not to exceed three years, will be allowed on the four years' experience required by law. The remainder of the experience must have been in compounding and dispensing drugs, medicines, and poisons under the supervision of a registered pharmacist in a drugstore or pharmacy where the prescriptions of medical practitioners are compounded. Attention is called to the fact that the College of Pharmacy is the only recognized school of this kind in Illinois.

It is important that every student desiring to qualify in Illinois should become registered as an apprentice as early as possible, since the experience time mentioned above is counted only from the date of registration



New Student Residence Hall

as an apprentice. Any time spent prior to this date is not credited as experience.

Student Housing

Excellent living accommodations in the new Residence Hall are available to all students in the Colleges of Pharmacy, Medicine, and Dentistry. This residence unit is conveniently located to all campus facilities and is equipped with the finest furnishings and equipment.

The Residence Hall has 13 single rooms and 196 double rooms. The student rooms are unusually large. Double rooms are 11 feet 7½ inches by 16 feet 10 inches and single rooms are 8 feet 10 inches and 8 feet 4 inches by 16 feet 10 inches. Double rooms are equipped with two single

beds and mattresses, bedding, two chests with mirrors, two desks, two study chairs, a lounge chair, study lamps, and waste baskets. Single rooms are equipped proportionately. Each resident has an individual closet 3 feet by 3 feet.

Each floor of the building is equipped with a central washroom and shower room. Trunk storage space is available on the first floor of the building. The laundry room is equipped with automatic washers and driers. The building has two automatic elevators.

Residence hall cost includes room and board (twenty meals per week) and is payable in full or quarterly in advance. The cost includes the services of housemen for general maintenance work and maids who make beds and clean the rooms five days each week. Single rooms are \$875 per student for three quarters and double rooms \$820 per student for three quarters.

For information about housing, write to the Director of Housing, 721 South Wood Street, Chicago 12.

Fees and Expenses

A schedule of fees for regular full-time students in the College of Pharmacy is listed below. One-third of each year's fees is payable on registration for each quarter. The Board of Trustees of the University reserves the right to change the fees at any time through publication in the annual announcements.

	Tuition Fee	Building and Laboratory Service Fee	Union Building Service Charge	Total
FIRST YEAR				
Illinois	\$102.00	\$ 66.00	\$10.50	\$178.50
Non-Illinois	321.00	84.00	10.50	415.50
SECOND YEAR				
Illinois	102.00	96.00	10.50	208.50
Non-Illinois	321.00	114.00	10.50	445.50
THIRD YEAR				
Illinois	102.00	96.00	10.50	208.50
Non-Illinois	321.00	114.00	10.50	445.50
FOURTH YEAR				
Illinois	102.00	102.00	10.50	214.50
Non-Illinois	321.00	120.00	10.50	451.50

Students registered for twelve credit hours or less pay tuition fees at the rate of \$2.50 a credit hour if residents of Illinois, or \$10.00 a credit hour if nonresidents. For thirteen credit hours or more, the full tuition fees are charged. Students taking twelve quarter hours or less will also pay \$2.50 per quarter hour of credit as a building and laboratory service fee if residents of Illinois, or \$3 per quarter hour of credit if nonresidents. In no

case will a student be assessed a greater fee than is paid by full-time students. All part-time students will pay the full Union Building Service Charge.

Late Registration Fee. Former students who register after the regular registration days in any quarter pay a late registration fee of \$5.

Special Examination Fee. For any special examination to remove a failure, the fee is \$5.

Study-list Change Fee. A fee of \$1 is charged for every study-list change slip issued later than the Saturday noon following the regular registration days. This rule applies also to registration for electives after the dates specified for regular registration.

Transcript Fee. Each student who has paid all his University fees is entitled to receive, without charge, one transcript of his record. For each additional transcript the fee is 50 cents.

Listener's Fee. For each credit hour, persons not connected with the University who are permitted to attend classes as listeners pay \$10 if residents of Illinois, \$40 if nonresidents.

Fees for Unclassified Students. Fees charged unclassified students are based on the amount of work taken.

Service Charge for Deferred Fees. In cases of necessity, students may arrange for deferment of fees by calling at the Business Office (128 Dentistry-Medicine-Pharmacy Building). A service charge of ten per cent of the amount of fees deferred, not to exceed \$2 a quarter, will be charged for the privilege of deferring fees, and this charge must be paid on the day of registration. If deferred fees are paid in full within ten days after registration, the service charge will be refunded, except that a minimum service charge of \$1 will be retained by the University in all cases. The service charge, not less than one-third of the current quarter's fees, and all fees and charges from previous terms must be paid on the day of registration. Failure to meet payments of fees within the time limits will cancel at once the privilege of attending classes. Registration is not completed until fees are paid in full, and no credit will be recorded for class work completed unless all fees and other charges have been paid in full. Deferred payment of fees delays the completion of registration, but extends the privilege of attending classes pending payment of fees in full as described above.

Refunds. If a student withdraws within ten days after the beginning of instruction, his total fees (except the \$15 deposit) will be refunded. After ten days and before the expiration of one month, a refund of two-thirds of his total fees will be made. After one month and before the expiration of two months, a refund of one-third of these fees will be

made. After the expiration of two months, no part of the fees will be refunded.

Expenses

From \$90 to \$125 a month may be regarded as adequate for the ordinary living expenses of a student in Chicago, exclusive of books, clothing, railroad fare, and miscellaneous needs. The expense for books averages between \$40 and \$50 a year.

Scholarships, Honors, and Prizes

Scholarships

General Assembly Scholarships. Each member of the General Assembly may make one nomination annually. Nominations must be filed with the President of the University on or before the opening day of the semester or term in which the scholarships are to become effective. Holders of these scholarships are exempt from tuition fees, but not from other fees.

State Military Scholarships. Any person who served in the Army, Navy, or Marine Corps during World War I, or since September 16, 1940, and who has been honorably discharged is entitled to a scholarship in the University of Illinois if he possesses the full entrance requirements and if he was a resident of the State of Illinois or a student in the University of Illinois at the time of enlistment. This scholarship exempts the holder from the tuition fees in any course in the University for four years. Students may not use this State Military Scholarship while receiving financial assistance from any division of the federal government. Applications for these scholarships may be secured from the Office of Admissions and Records.

Students may attend under the Korean G. I. Bill (Public Law 550).

Honors

Graduation with Honors. A student who complies with the requirements for graduation, and who attains in all work presented for the degree the average grade specified below, may be recommended by the University Senate for the honors stated: for an average grade of not less than 4.35, graduation with honors; for an average grade of not less than 4.75, graduation with high honors. The honors awarded are noted on the diploma and in the Commencement program.

Honors Day Convocation. Under the supervision of the College of Pharmacy Committee on Awards, an Honors Day Convocation is held annually. Certificates indicating attainment of honors are awarded to members of

all four classes who have maintained an average grade of not less than 4.35, and certificates indicating attainment of high honors are awarded to members of all four classes who have maintained an average grade of not less than 4.75. These averages are determined at the beginning of the third quarter of each year. In addition, the prizes indicated in the following section are awarded at this convocation.

Prizes

Borden Scholarship Award. The Borden Company, through the Borden Company Foundation, Inc., has established in the College of Pharmacy the Borden Scholarship Award. This award consists of a \$300 scholarship, which is given annually to the junior student who has attained the highest scholastic average upon entering the third quarter of the junior year.

Elich Prize. Mrs. Herman Elich, in memory of Mr. Herman Elich '96, who as an alumnus of the College of Pharmacy originated the Elich Prize, continues to offer annually a prize of \$25 to the senior student who attains the highest scholastic average in Pharmacognosy.

Ethel J. Heath Scholarship Key. Gamma Chapter of Lambda Kappa Sigma offers annually an honor key to the graduating sorority member having the highest scholastic average upon entering the third quarter of the senior year. The recipient must have attained a grade average of at least 4.0 to qualify for the award.

Illinois Pharmaceutical Association Women's Auxiliary Award. The Women's Auxiliary of the Illinois Pharmaceutical Association offers annually an award of \$25 to the outstanding graduating woman student of the College of Pharmacy. This award is based upon (1) character, (2) scholastic attainment, and (3) leadership.

Rho Chi Prize. Phi Chapter of Rho Chi, honorary pharmaceutical society, awards annually an embossed copy of the United States Dispensatory as a prize to the sophomore student who has attained the highest scholastic average upon entering the third quarter of the sophomore year.

Van Schaack Prize. By the will of Cornelius P. Van Schaack, the College of Pharmacy received in 1937 the sum of one thousand dollars to be held in trust by the University. The annual income from this bequest is to be used for the purchase of a gold medal, known as the C. P. Van Schaack Award, which is to be presented to the senior student who has attained the highest scholastic average in chemistry upon entering the third quarter of the senior year.

From time to time other prizes are made available and are also awarded at the annual Honors Day Convocation.

Loan Funds

Several loan funds have been established for the benefit of worthy students who have satisfactorily completed at least one year of work in the University and are in need of financial aid in order to finish their courses. Information concerning these funds and the regulations governing loans may be obtained from the office of the Dean of the College.

American Pharmaceutical Association Women's Auxiliary Loan Fund. The Women's Auxiliary of the American Pharmaceutical Association has established a loan fund for women students enrolled in the accredited colleges of pharmacy. Applications for loans may be made by women students who have maintained a satisfactory scholastic record in their colleges of pharmacy. The amount of the loan granted is determined on the basis of the need of the applicant, as shown by supporting recommendations from the Dean or other qualified officer of the College.

Ebert Loan Fund. In 1907, following the death of Mr. Albert E. Ebert, who had taken an active part in the development of the College of Pharmacy, the Alumni Association of the College established a fund in memory of Mr. Ebert. Later contributions were made by the Women's Organization of the Chicago Retail Druggists' Association to establish a loan fund. In 1931 the funds were combined into one known as the Albert E. Ebert Loan Fund. The Class of 1932 also contributed to this fund. Loans are made to deserving students.

Goldenrod Ice Cream Company Loan Fund. Established in 1943, through a gift from the Goldenrod Ice Cream Company of Chicago, this fund provides for loans to students.

Goldstine Emergency Loan Fund. This fund for emergency loans to students was established by the Board of Trustees in 1933. The name was changed in 1943 when the fund was increased by a gift from Mr. Harry Goldstine.

Organizations

Alumni Association of the College of Pharmacy

President: JOHN P. TAYLOR '41, 538 Shadoway Drive, East Peoria.

Vice-President: ORLO KNIGHT '28, 743 E. 104th Pl., Chicago.

Treasurer: RALPH E. TERRY '20, Box 518, R. R. 2, Naperville.

Secretary: SAMUEL SHKOLNIK '25, 111 W. Washington St., Chicago.

Trustees (in addition to the above officers):

RAY MOORE '25, 5 S. Main St., Harrisburg.

FRANK R. KOZLICKI '39, 5047 N. Nashville Ave., Chicago.

SAMUEL A. BRODY '24, 6405 N. Hamilton, Chicago.

Representative (on General Alumni Board):

HARRY E. LEVIN '23, 947 N. Oak Park Ave., Oak Park.

Student Branch of the American Pharmaceutical Association

The Student Branch of the American Pharmaceutical Association is the only organization which offers professional membership to all students in the College of Pharmacy. The organization maintains an active professional program, and cooperates with the Chicago Branch of the A. Ph. A. in the development of the annual banquet of that organization. Approximately seventy per cent of the students enrolled in the College of Pharmacy are active members of the association. Seniors in good standing in the Student Branch at the time of their graduation are accorded full membership in the American Pharmaceutical Association until January 1 of the succeeding year.

Phi Mu Phi

Phi Mu Phi is an honorary musical fraternity open to students of the Chicago Professional Colleges who take an active part in the musical organizations.

Rho Chi

Phi Chapter of Rho Chi, national honorary pharmaceutical society, organized to promote the advancement of the pharmaceutical sciences, is located at the College of Pharmacy. Students who have completed 115 quarter hours of work with an average of at least 4.0 are eligible for membership.

Other Pharmaceutical Associations

The Chicago Branch of the American Pharmaceutical Association, composed of representative pharmacists of Chicago and vicinity, holds its monthly meetings at the College of Pharmacy. Students of Pharmacy are invited to attend.

The College of Pharmacy holds membership in the American Association of Colleges of Pharmacy. The object of the association is to promote the interests of pharmaceutical education, and all institutions holding membership must maintain certain minimum requirements for entrance and

graduation. Through the influence of this association, higher standards of education have been adopted.

Plan of Instruction

Pharmacy is a health profession concerned with the selection, preservation, standardization, and preparation of drugs and medicinals. It is based on two groups of fundamental sciences, the physical and the biological. Advancements in these sciences have contributed so much to the health professions that it is imperative for the pharmacist to be thoroughly trained in the fundamental sciences as well as in the applied and professional subjects. Accordingly, ample time in the curriculum of the College of Pharmacy is devoted to the physical and biological sciences and other subjects necessary to the practice of Pharmacy.

As there are several allied and related fields to which individuals with a pharmaceutical training are particularly adaptable, each student is permitted to elect specialized courses during his fourth year.

The College of Pharmacy offers a four-year curriculum, leading to the degree of Bachelor of Science in Pharmacy, as summarized on pages 24 and 25. The courses included in the basic curriculum are required of all students. Elective courses for the fourth year are determined through consultation with the class adviser.

Significance of Grades of the College of Pharmacy

Grades given for work in the College of Pharmacy are as follows: A, excellent; B, good; C, fair; D, poor; E, failure. Numerical equivalents of these grades on the basis of which averages are made are as follows: each hour of A grade carries 5 grade points; each hour of B grade, 4 grade points; each hour of C grade, 3 grade points; each hour of D grade, 2 grade points; each hour of E grade, 1 grade point.

In addition to the above grades, the following symbols are used. The symbol W indicates withdrawal from the course with permission of the Dean, and will be permitted only when the student's work in the subject concerned is of passing grade. Withdrawal because of military service is subject to special regulations. The grade of E is given to students withdrawn from the course who were doing failing work at the time of withdrawal. If a student is absent from the final examination without excuse acceptable to the Dean, the symbol Ab. is used and counts as a failure. If a student is absent from the final examination with excuse acceptable to the Dean, the symbol Ex. is used. The mark of Ex. entitles the student to an examination later without fee, but becomes a failure,

unless removed at the first opportunity approved by the Dean. The symbol Dr. indicates that the student was dropped for disciplinary reasons.

In order to qualify for graduation, a student shall have completed successfully a minimum of 202 quarter hours and earned a minimum of 606 grade points. A grade-point average of 3.0, or C, for all work in the College of Pharmacy, including work taken elsewhere and accepted for advanced credit, is required for graduation. Failures of required courses in the curriculum must be removed by repeating successfully those courses in which a grade of E is obtained. Students withheld from promotion or graduation on a basis of an insufficient grade-point average may earn the grade points necessary by repeating courses in which a previous grade of D was received or by the completion of elective courses acceptable to the Dean. When any course is repeated only the grade last received will be used in determining the grade-point average.

Probationary Status. Any student who fails to attain a 3.0 average in the work for which he receives a grade at the end of a quarter will be placed on probation. A student can remove himself from probationary status only upon earning a 3.0 average during his next period of registration. A student who is placed on probation may be required to limit his schedule until probationary status is removed.

Refusal of Further Registration Because of Poor Scholarship. A student who fails to remove himself from probationary status during his next period of registration may be dropped for poor scholarship. A student who receives failing grades in one-half or more of the work for which he receives a grade at the end of a quarter will be dropped for poor scholarship. A student who is refused further registration because of poor scholarship may petition the Committee on Student Status and Promotion for readmission. Reconsideration of the case of a student dropped for poor scholarship does not guarantee readmission. Except for unusual circumstances, a student may be reinstated only once.

Promotion to the Next Higher Class. Any student who, at the end of the academic year, has completed substantially all of the normal program, and has a cumulative grade-point average of 3.0 or better, will be promoted to the next higher class. A student who, at the end of the academic year, has a cumulative grade-point average of less than 3.0 may be promoted to the next higher class only with the approval of the Committee on Student Status and Promotion. If a student's cumulative grade-point average is substantially below 3.0, promotion to the next higher class may be withheld.

Summary of Curriculum in Pharmacy

Basic Curriculum

	FIRST YEAR									Total Cr.
	1st Quarter			2d Quarter			3d Quarter			
	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.	
Chemistry 143, 144, 145.....	4	3	5	4	3	5	3	6	5	15
English 120, 121, 122.....	3	0	3	3	0	3	3	0	3	9
Hygiene 160.....	1	0	0							0
Mathematics 140, 141, 142.....	3	0	3	3	0	3	3	0	3	9
Pharmacy 100, 101, 102.....	2	0	2	2	0	2	2	2	3	7
Zoology 161, 162, 163.....	2	6	4	3	6	5	2	6	4	13
	15	9	17	15	9	18	13	14	18	53

SECOND YEAR										
Chemistry 146.....	4	6	6	..	..	..	..	..	..	6
Chemistry 147, 148.....	..	..	..	4	6	6	4	6	6	12
Pharmacy 103, 104, 105.....	2	4	4	2	4	4	2	4	4	12
Pharmacy Administration 124.....	..	..	..	..	..	..	3	0	3	3
Physics 150, 151, 152.....	3	3	4	3	3	4	3	3	4	12
Psychology 125.....	..	..	..	3	0	3	..	..	..	3
Sociology 123.....	3	0	3	..	..	..	..	..	..	3
	12	13	17	12	13	17	12	13	17	51

THIRD YEAR										
Bacteriology 280.....	..	..	..	..	..	..	3	6	6	6
Chemistry 240.....	4	3	5	..	..	..	..	..	..	5
Chemistry 331, 332.....	..	..	..	3	6	5	3	6	5	10
Pharmacognosy 290, 291, 292.....	2	6	4	2	6	4	2	6	4	12
Pharmacy 200, 201, 202.....	2	3	3	2	3	3	2	3	3	9
Physiology 260, 261.....	3	3	4	3	3	4	..	..	..	8
	11	15	16	10	18	16	10	21	18	50

FOURTH YEAR										
Bacteriology 281.....	2	0	2	..	..	..	..	..	..	2
Chemistry 244.....	..	..	..	2	6	4	..	..	..	4
Chemistry 342.....	4	0	4	..	..	..	..	..	..	4
Pharmacology 262, 263, 264.....	4	0	4	4	2	4	3	3	4	12
Pharmacy 203, 204, 205.....	3	0	3	3	0	3	1	4	3	9
Pharmacy Administration 230.....	..	..	..	..	..	..	4	0	4	4
	13	0	13	9	8	11	8	7	11	35

Electives..... 5 - 7 5 - 7 5 - 7 15-21

Basic curriculum 189 hours (required of all students).

Elective Subjects Available to Senior Students

	Didactic	Laboratory	Credit Hours
First Quarter:			
Chemistry 245.....	4	0	4
Chemistry 346.....	2	9	5
Pharmacy 206.....	1	6	3
Pharmacy 207.....	1	6	3
Pharmacy 208.....	1	6	3
Pharmacy Administration 220.....	2	3	3

Second Quarter:

Chemistry 340.....	4	3	5
Pharmacognosy 301.....	2	9	5
Pharmacognosy 310.....	2	3	3
Pharmacy 206.....	1	6	3
Pharmacy 207.....	1	6	3
Pharmacy 208.....	1	6	3
Pharmacy Administration 221.....	4	0	4
Zoology 304.....	3	3	4

Third Quarter:

Chemistry 343.....	2	9	5
Chemistry 349.....	2	9	5
Chemistry 350.....	3	6	5
Entomology 270.....	3	3	4
Pharmacognosy 302.....	3	6	5
Pharmacognosy 311.....	1	6	3
Pharmacy 206.....	1	6	3
Pharmacy 207.....	1	6	3
Pharmacy 208.....	1	6	3
Pharmacy 209.....	1	6	3
Pharmacy Administration 248.....	3	0	3

Preregistration of students to complete the senior year will be held subsequent to the completion of the junior year. Students will be asked to indicate their desires and objectives in terms of (1) graduate study and training and (2) study areas of particular interest.

The following elective programs are recommended:

A. For students not planning to undertake graduate study:

First Quarter	Second Quarter	Third Quarter
Pharmacy 206	Pharmacy 208	Entomology 270
Pharmacy 207	Pharmacy Administration 221	Pharmacy 209
Pharmacy Administration 220		Pharmacy Administration 248
B. For students anticipating graduate training in Pharmacy:		
Chemistry 245	Chemistry 340	Chemistry 349
Pharmacy 206	Pharmacy 207	Entomology 270
		Pharmacy 208
C. For students anticipating graduate training in Chemistry:		
Chemistry 346	Chemistry 340	Chemistry 349
D. For students anticipating graduate training in the Biological Sciences:		
Chemistry 245	Pharmacognosy 301	Entomology 270
	Zoology 304	Pharmacognosy 302

Courses of Instruction

The following list of subjects is arranged in alphabetical order. The description of each course includes a statement of the number of lecture, recitation, or laboratory periods each week (each period being one clock hour unless otherwise specified). The total clock hours, with their distribution in didactic and laboratory work, are shown in the summary of the curriculum, which also shows the credit in quarter hours. In the description of each course the quarter during which it is given is indicated by a Roman numeral, "I" for the first quarter, "II" for the second quarter,

and "III" for the third quarter, followed by an Arabic numeral in parenthesis indicating the number of credit hours. For example, "I, (3)" means that the course is given in the first quarter for three hours of credit. The expression "I, II, or III" is used if the course may be taken in any quarter.

BACTERIOLOGY

280. *General Bacteriology and Microbiology*. Characteristics of bacteria, yeasts, and molds; their relation to disease; biologic products prepared from them; action of antiseptics, disinfectants, and sterilizants; cleaning and sterilizing glassware; preparation of culture media and staining solutions; preparation of cultures and stained mounts; isolation and identification of organisms from mixed cultures; milk and water counts; disinfectant standardization; antibiotics. Three lectures and three 2-hour laboratory periods each week. III, (6).
281. *General Bacteriology and Microbiology*. Continuation of Course 280. Viruses, bacteriophage, pathogenic protozoa and metozoa, mycology and pathogenic fungi, epidemiology and control of communicable diseases and public health administration. Two lectures or recitations each week. I, (2). Prerequisite: Bacteriology 280.

CHEMISTRY

- 143, 144, 145. *General Chemistry and Qualitative Analysis*. A study of the fundamental concepts of physical science; the physical laws as they are needed for the continuing study of chemistry; theories of atomic and molecular structure; the periodic properties of the elements; the formation of compounds; descriptive chemistry; properties of positive and negative ions, and the reactions utilized in the systematic separation and identification of them; practice in equation writing and the solution of problems. Four lectures or recitations and one 3-hour laboratory period each week. I, (5) and II, (5). Three lectures or recitations and two 3-hour laboratory periods each week. III, (5).
146. *Quantitative Analysis*. Theories and technic of gravimetric and volumetric analysis. Whenever possible the methods of the U.S.P. are used to illustrate their application, and pharmaceutical or medicinal products are used for practical examinations. Four lectures or recitations and two 3-hour laboratory periods each week. I, (6). Prerequisite: Chemistry 145 or its equivalent, and Mathematics 140, 141, 142.
- 147, 148. *Organic Chemistry*. Nomenclature, occurrence, general methods of preparation, type reactions, and special reactions of acyclic, alicyclic, and aromatic hydrocarbons; their oxygen, halogen, nitrogen, and sulfur derivatives; proteins, carbohydrates; the simpler oxygen, nitrogen, and sulfur heterocyclics. Four lectures or recitations and two 3-hour labo-

ratory periods each week. II, (6) and III, (6). Must be taken in sequence. Prerequisite: Chemistry 145 or its equivalent, and Mathematics 140, 141, 142.

240. *Physical Chemistry*. An introductory course outlining the scope of the field and the relationships and applications to other fields of science. Four lectures or recitations and one 3-hour laboratory period each week. I, (5). Prerequisite: Chemistry 146 and 148 or their equivalents.
244. *Drug Assaying*. Principles and methods of drug standardization applied to substances included in the U.S.P. Preparation and standardization of volumetric solutions; assays of alkaloid-bearing drugs, essential oils, aldehydes and phenol; determination of alcohol in pharmaceutical preparations; acid, saponification, and iodine values of fats; refractive index and specific rotation. Two lectures or recitations and two 3-hour laboratory periods each week. II, (4). Prerequisite: Chemistry 146 and 148 or their equivalents.
245. *Chemistry of Natural Products*. A study of the occurrence, origin, biological significance, nomenclature, physical and chemical properties, methods of isolation and pharmaceutical uses of important natural substances such as sugars, sugar alcohols, polyhydroxy acids, gums, mucilages, pectins, glycosides, fats, waxes, sterols, hormones, vitamins, enzymes, essential oils and resins. I, (4). May be elected in senior year only. Prerequisite: One year of organic chemistry.
- 331, 332. *Biological Chemistry*. Course material equivalent to Biological Chemistry 301 in the College of Medicine. II, (5) and III, (5). Must be taken in sequence. Prerequisite: Chemistry 146 and 148 or their equivalents.
340. *Physical Chemistry*. (Second course.) A study of theoretical and applied electrochemistry and the chemistry of colloids. Four lectures or conferences and one 3-hour laboratory period each week. II, (5). May be elected in senior year only. Prerequisite: Chemistry 240 or its equivalent.
342. *Chemistry of Synthetic Drugs*. A study of modern synthetic drugs with regard to their nomenclature, methods of synthesis, relation to other drugs having similar therapeutic, physical, and chemical properties. Four lectures each week. I, (4). Prerequisite: One year of organic chemistry.
343. *Chemical Toxicology*. A course concerned with the common sources, chemistry of the physiological action, methods of isolation, and identification of toxic agents commonly encountered as industrial hazards and as the cause of accidental or purposeful poisoning. Two lectures and two 3-hour laboratory periods each week. III, (4). May be elected in senior year only. Prerequisite: One year of organic chemistry and concurrent registration in Pharmacology.

346. *Synthesis of Drugs*. Continuation of the study of organic chemistry and the applications of the type reactions to the manufacture of organic medicinal chemicals and their intermediates. Barbital, cinchophen, acetophenetidin, phenolphthalein, tryparsamide, hexylresorcinol, guaiacol, methylene blue, or others may be selected in consultation with the instructor. Reference to the original work on the substance elected is encouraged. Two lectures or recitations and three 3-hour laboratory periods each week. I, (5). May be elected in senior year only. Prerequisite: Chemistry 148 or its equivalent.
349. *Pharmaceutical Assaying*. Chemical and physical methods of analysis of raw materials and dosage forms of medication involving the principles of sampling and quantitative separation of active compounds from inactive diluent or vehicle or from other active components. Two lectures or conferences and three 3-hour laboratory periods each week. II or III, (5). May be elected in senior year only. Prerequisite: Chemistry 244.
350. *Instrumental Analysis*. The principles, methods, and techniques of analytical chemistry using modern electrical and electronic instruments. Three lectures and two 3-hour laboratory periods each week. III, (5). May be elected in senior year only. Prerequisite: Chemistry 146, 148, 240, and Physics 152.

(See Graduate College catalog for courses offered to graduate students.)

ENGLISH

- 120, 121, 122. *English Composition*. Practice in writing, reading, note-taking, and organizing material related to the work in other courses. Three class periods each week. I, (3); II, (3); and III, (3). A passing grade in English 120 is prerequisite to registration in English 121, etc.

ENTOMOLOGY

270. *Fundamentals of Insect Control*. A consideration of the Class Insecta with emphasis on the members of economic and public health importance. Insect characteristics are related to economic and public health factors and to standard procedures of control. Application of chemical insecticides and the position of the pharmacist in the distribution of insecticidal poisons will receive particular attention. Three lectures and one 3-hour laboratory period each week. III, (4). May be elected in senior year only.

HYGIENE

160. *Hygiene*. An introductory survey of individual, environmental, and social factors influencing the maintenance of health. One lecture-discussion each week. I, (0).

LANGUAGES

German or French. During their senior year students may elect German or French in any college or university accredited by the University of Illinois, and may present not more than twelve quarter hours of either language for advanced credit in lieu of other electives, provided that approval of the Dean is secured.

MATHEMATICS

140, 141, 142. *Elementary Mathematical Analysis.* A three quarter course designed to provide background for required science courses and to serve as a terminal course in mathematics for pharmacy students. I, (3); II, (3); and III, (3). A passing grade in Mathematics 140 is prerequisite to registration in Mathematics 141, etc.

PHARMACOGNOSY

290, 291, 292. *Principles of Pharmacognosy.* A lecture, laboratory, and field study of the fundamental botany and pharmacognosy of the principal drugs of vegetable and animal origin. Related products of economic importance bearing upon the health of man and animal will be considered. Two lectures and two 3-hour laboratory periods each week. I, (4); II, (4); and III, (4).

301. *Plant Anatomy.* A microscopic study of the structure of vascular plants with particular attention to the development and evaluation of the vascular systems in all parts of the plant. Two lectures and three 3-hour laboratory periods each week. II, (5). May be elected in senior year only. Prerequisite: Pharmacognosy 292.

302. *Plant Physiology.* A study of life processes in plants, with particular attention to the cell as the fundamental functional unit. The basic principles of plant metabolism will be emphasized in relation to essential elements, energy relationship, and other environmental factors. Three lectures or conferences and two 3-hour laboratory periods each week. III, (5). May be elected in senior year only. Prerequisite: Pharmacognosy 301.

310. *Crystallography.* A study of basic crystal morphology, the principles of optical crystallography, and an introduction to the practical application of these studies. Two lectures and one 3-hour laboratory period each week. II, (3). May be elected in senior year only.

311. *Chemical Microscopy.* The application of the principles of crystallography and of microchemistry to the identification of organic and inorganic chemicals. Special attention will be given to alkaloids, glycosides, and other materials of biological and pharmaceutical interest. One lecture and two 3-hour laboratory periods each week. III, (3). May be elected in senior year only.

(See Graduate College catalog for courses offered to graduate students.)

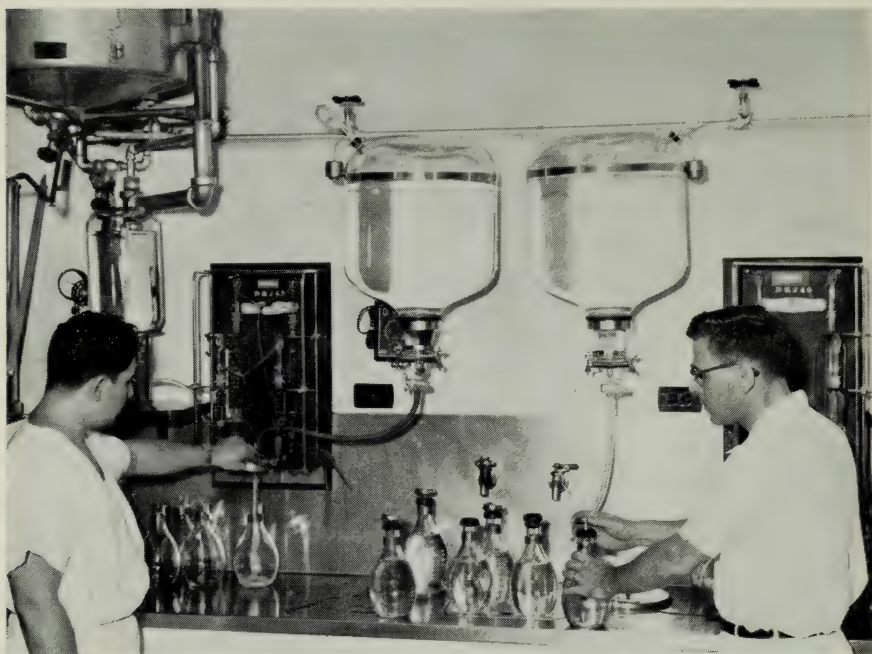
PHARMACOLOGY

262. *Pharmacology*. A consideration of the factors underlying the application of pharmacologic principles and agents to therapeutic problems. Lecture-discussions will be pointed to an understanding of the problems involved in the development and standardization of drug agents, of the basic tissue responses to drug action and drug injury, and of the fundamental sites of drug action. Four lectures each week. I, (4). Prerequisite: Physiology 261, Chemistry 242, Bacteriology 281, Pharmacognosy 292.
263. *Pharmacology*. A systematic consideration of the pharmacologic action and therapeutic implications of the principal drug agents, and the role of pharmacology in establishing rational principles of therapy. Four lectures and one 2-hour demonstration period each week. II, (4). Prerequisite: Pharmacology 262.
264. *Pharmacology*. An extension of the application of pharmacologic principles in the fields of chemotherapy, antibiotic drugs, and toxicology. Three lectures and one 3-hour laboratory period each week. III, (4). Prerequisite: Pharmacology 263.

PHARMACY

100. *Introductory Pharmacy*. An orientation course covering the scope, historical development, and literature of pharmacy. Two lectures or recitations each week. I, (2).
101. *Pharmaceutical Weights and Measures*. Nomenclature and definitions of the systems of weights and measures used in pharmacy, relationships of the various systems, and the calculations involved. Two lectures or recitations each week. II, (2). Prerequisite: Pharmacy 100.
102. *Pharmaceutical Processes*. A study of pharmaceutical processes and manipulations, definitions, and nomenclature. Laboratory work consists of experiments to illustrate the important pharmaceutical technics. Two lectures or recitations and one 2-hour laboratory period each week. III, (3). Prerequisite: Pharmacy 101.
103. *Galenical Pharmacy I*. A discussion of official and non-official galenical pharmaceuticals; aromatic waters, solutions, syrups, elixirs, and related types of preparations. The laboratory work includes manufacture of representative examples of each type. Two lectures and two 2-hour laboratory periods each week. I, (4). Prerequisite: Pharmacy 102.
104. *Galenical Pharmacy II*. Lectures consist of discussion of official and non-official galenical pharmaceuticals of the following classes: colloids, glycerites, liniments, oleates, emulsions, infusions, decoctions, tinctures, fluidextracts, resins and extracts, powders, triturations, and effervescent salts. Laboratory work follows lectures closely. Two lectures and two 2-hour laboratory periods each week. II, (4). Prerequisite: Pharmacy 103.

105. *Galenical Pharmacy III*. Discussion of official and non-official galenical pharmaceuticals of the following classes: ointments, pastes, creams, cerates, cataplasms, suppositories, capsules, pills, troches, tablets, etc. Laboratory work consists of the manufacture of selected examples of these classes of preparations. Two lectures and two 2-hour laboratory periods each week. III, (4). Prerequisite: Pharmacy 104.
200. *Dispensing of Inorganic Materials*. Consideration of the pharmaceutical, medical, and technical uses of official inorganic materials, including reactions giving incompatibilities in prescription compounding. Laboratory work consists of selected experiments demonstrating principles discussed in the lectures. Two lectures and one 3-hour laboratory period each week. I, (3). Prerequisite: Pharmacy 105, Chemistry 146.
201. *Dispensing of Organic Materials*. Consideration of the pharmaceutical, medical, and technical usage of official organic materials, including reactions giving incompatibilities in prescription compounding. Laboratory work consists of selected experiments demonstrating principles discussed in the lectures. Two lectures and one 3-hour laboratory period each week. II, (3). Prerequisite: Pharmacy 200.
202. *Dispensing Technics*. Lectures and laboratory work in technics of dispensing prescriptions, nomenclature, reading of difficult sample prescriptions, and basic incompatibility problems. Two lectures and one 3-hour laboratory period each week. III, (3). Prerequisite: Pharmacy 201.
203. *Advanced Dispensing I*. Discussion of principles involved in complex pharmaceutical preparations and development of dispensing technics applied to current products. Three lectures each week. I, (3). Prerequisite: Pharmacy 202.
204. *Advanced Dispensing II*. Discussion of the special topics of manufacturing pharmacy, clinical reagents, surgical supplies, dental and veterinary pharmacy, insecticides and rodenticides, and biological products as related to handling and dispensing problems. Three lectures each week. II, (3). Prerequisite: Pharmacy 203.
205. *Advanced Dispensing III*. Discussion and experimental laboratory development of problems of dispensing isotonic, buffered and collyria solutions, colloids, emulsions, and suspensions, with study of representative prescription specialties illustrating these types of preparations. One lecture and two 2-hour laboratory periods each week. III, (3). Prerequisite: Pharmacy 204.
206. *Hospital Pharmacy*. Fundamentals of hospital pharmacy management. One conference period and six hours in the hospital pharmacy each week. I, II, and III, (3). May be elected in the senior year only.
207. *Manufacturing Processes*. Manufacture of pharmaceutical products on a semi-commercial scale, including analytical control of raw materials



New Parenteral Solution Manufacturing Laboratory



A Prescription Case Used in the Hospital Pharmacy Dispensing Unit Located in the New East Wing of the University of Illinois Research and Educational Hospitals

and finished preparations. One conference period and six hours of laboratory work each week. I, II, and III, (3). May be elected in senior year only.

208. *Parenteral and Special Solutions*. Preparation of solutions for intravenous and subcutaneous use. One conference period and six hours of laboratory work each week. I, II, and III, (3). May be elected in senior year only.
209. *Cosmetic Technology*. Composition, formulation, and manufacture of selected types of cosmetics such as face, tooth, talcum, and foot powders, cold and vanishing creams, hand lotions, rouges, lipsticks, bath salts, etc. Problems of perfuming, coloring, packaging, and preservation are considered. Representative types of these products are made during the laboratory periods. One lecture and six hours of laboratory each week. III, (3). May be elected in senior year only.

(See Graduate College catalog for courses offered to graduate students.)

PHARMACY ADMINISTRATION

124. *Principles of Economics*. Principles of production, supply, demand, value, price, distribution. Three lectures or recitations each week. III, (3).
220. *Principles of Accounting*. Fundamentals of accounting practice with special application to requirements of the retail pharmacy. Two lectures or recitations and one 3-hour laboratory period each week. I, (3). May be elected in senior year only.
221. *Principles of Marketing*. The policies and problems involved in the manufacturing, wholesaling, and retailing of drugstore merchandise. Four lectures or recitations each week. II, (4). May be elected in senior year only. Prerequisite: Pharmacy Administration 124 and 220.
230. *Pharmaceutical Jurisprudence*. Laws and regulations relating to the practice of pharmacy; principles of common law bearing upon the work and responsibilities of the pharmacist. Four lectures each week. III, (4). Prerequisite: Senior standing.
248. *Retail Pharmacy Management*. Discussion of the principles of store establishment, financing, departmentalization, buying, promotional activities, personnel selection, and operational problems of a retail pharmacy. Three lectures or recitations each week. III, (3). Prerequisite: Pharmacy Administration 221 and senior standing.

PHYSICAL EDUCATION

NOTE: In addition to the work offered in Physical Education, an extensive intramural athletic program for men is in operation. Intercollegiate athletics are limited to basketball at present. A small gymnasium, athletic field, and two tennis courts are open daily. Recreational swimming and handball are offered free to male students at the Duncan YMCA. Women students are offered use

of the West Side YWCA and access to archery and table tennis equipment at the Illini Union Building.

Physical Education Practice. The measurement, development, and maintenance of physical fitness in accordance with each student's needs and abilities. Two hours each week. Elective at any time during the four years.

PHYSICS

150, 151, 152. *General Physics.* Mechanics, heat, sound, electricity, magnetism, light, and atomic physics. Two lectures, one recitation, and one 3-hour laboratory period each week. I, (4); II, (4); and III, (4). Prerequisite: Mathematics 140, 141, and 142, or their equivalents.

PHYSIOLOGY

260. *Human Physiology.* Physiology of blood, including spleen; heart and circulation; respiration; gastrointestinal tract and liver; kidney, skin, and water balance. Three lectures or recitations and one 3-hour laboratory period each week. I, (4). Prerequisite: Junior standing.

261. *Human Physiology.* Physiology of endocrines, heat regulation, nutrition, and metabolism; muscle and nerve; central nervous system and autonomic nervous system; and senses. Three lectures or recitations and one 3-hour laboratory period each week. II, (4). Prerequisite: Physiology 260.

PSYCHOLOGY

125. *Psychology.* Introduction to psychology. Introductory analysis and description of human behavior, with special reference to observation, learning, memory, thinking, emotional life, and personality development. Three lectures or recitations each week. II, (3). Prerequisite: Zoology 161 and 162, Sociology 123.

SOCIOLOGY

123. *Sociology.* A systematic study of the fundamental aspects of human society, personality, social organization, social change. Three lectures or recitations each week. I, (3).

ZOOLOGY

161. *General Zoology.* An introductory course stressing the basic biologic principles of cytology, metabolism, embryology, anatomy, genetics, and evolution as illustrated by the major animal phyla. Two lectures and two 3-hour laboratory periods each week. I, (4).

162. *Mammalian Zoology.* The structure, as correlated with function, of man as a typical mammal, using the cat for laboratory dissection. Three lectures and two 3-hour laboratory periods each week. II, (5). Prerequisite: Zoology 161.

163. *Mammalian Histology*. A study of the fundamental microscopic anatomy of tissues, organs, and organ systems. Correlation between structure and function is emphasized. Two lectures and two 3-hour laboratory periods each week. III, (4). Prerequisite: Zoology 162.
304. *Genetics*. This course will consider the fundamental principles of biological inheritance, and the application of these in the study of plant and animal life. Three lectures and one 3-hour laboratory period each week. II, (4). May be elected in senior year only. Prerequisite: Zoology 162 or equivalent.

(See Graduate College catalog for courses offered to graduate students.)

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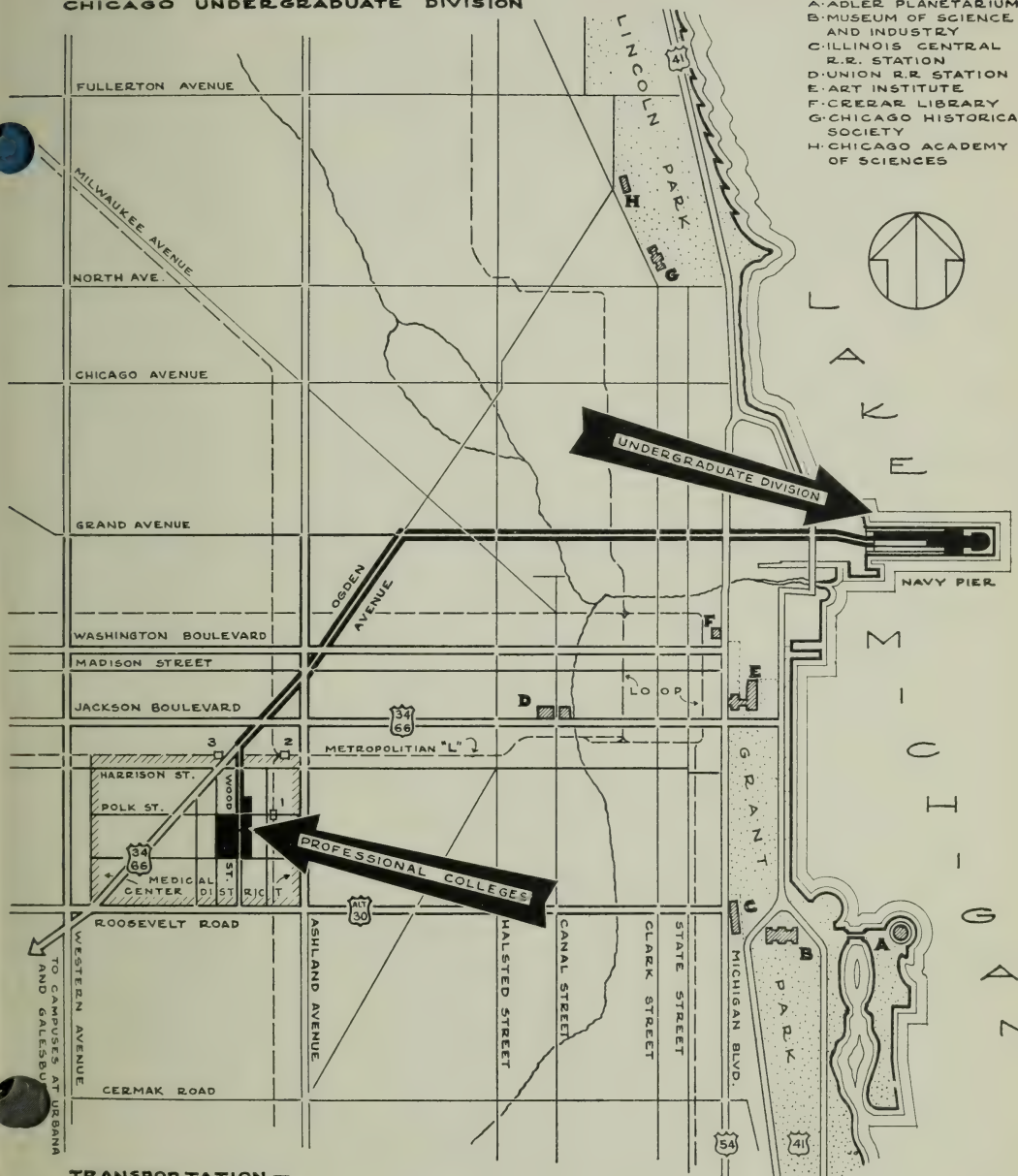
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UNIVERSITY OF ILLINOIS

CHICAGO PROFESSIONAL COLLEGES
CHICAGO UNDERGRADUATE DIVISION

LEGEND -

- A-ADLER PLANETARIUM
- B-MUSEUM OF SCIENCE AND INDUSTRY
- C-ILLINOIS CENTRAL R.R. STATION
- D-UNION R.R. STATION
- E-ART INSTITUTE
- F-CREER LIBRARY
- G-CHICAGO HISTORICAL SOCIETY
- H-CHICAGO ACADEMY OF SCIENCES



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FEEDER BUS - POLK & WOOD STREETS, TRANSFER GRAND AVE. STREET CAR.
STREET CAR - ASHLAND CAR ON PAULINA ST., TRANSFER GRAND AVENUE.
"L" STATIONS: 1-POLK ST. 2-MARSHFIELD 3-OGDEN AVE., ALL TRAINS TO LOOP,
TRANSFER STONY ISLAND STREET CAR.

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1955/57

CATALOG 1955-1957



College of

PHARMACY



UNIVERSITY OF ILLINOIS

The cover shows the architect's model of the new East Unit of the Dentistry-Medicine-Pharmacy Building into which the College of Pharmacy moved in 1954.

UNIVERSITY OF ILLINOIS

College of Pharmacy

CATALOG 1955-1957

PUBLISHED BY THE UNIVERSITY OF ILLINOIS, 833 SOUTH WOOD STREET, CHICAGO 12

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1955/57

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Calendar

1955 — FALL QUARTER

September 26, Monday	First day of classes.
November 24, Thursday	Thanksgiving Day.
December 17, Saturday	Fall quarter ends.

1956 — WINTER QUARTER

January 3, Tuesday	First day of classes.
March 24, Saturday	Winter quarter ends.

1956 — SPRING QUARTER

April 2, Monday	First day of classes.
May 30, Wednesday	Memorial Day.
June 15, Friday	Commencement exercises.

1956 — FALL QUARTER

October 1, Monday	First day of classes.
November 22, Thursday	Thanksgiving Day.
December 22, Saturday	Fall quarter ends.

1957 — WINTER QUARTER

January 7, Monday	First day of classes.
March 30, Saturday	Winter quarter ends.

1957 — SPRING QUARTER

April 8, Monday	First day of classes.
May 30, Thursday	Memorial Day.
June 21, Friday	Commencement exercises.

1957 — FALL QUARTER

September 30, Monday	First day of classes.
November 28, Thursday	Thanksgiving Day.
December 21, Saturday	Fall quarter ends.

Administrative Officers

- LLOYD MOREY, A.B., B.Mus., C.P.A., D.Sc., LL.D., President of the University (retirement effective September 1, 1955)
- DAVID DODDS HENRY, Ph.D., LL.D., President of the University (effective September 1, 1955)
- HERBERT E. LONGENECKER, Ph.D., D.Sc. (Honorary), Vice-President of the University
- EARL R. SERLES, Ph.D., D.Sc. (Honorary), Dean of the College of Pharmacy
- JOSEPH S. BEGANDO, Ph.D., Assistant Dean of the College of Pharmacy
- GEORGE R. MOON, A.M., Examiner and Recorder for the Chicago Departments
- DONALD J. CASELEY, A.B., M.D., Medical Director of the Research and Educational Hospitals and Associate Dean of the College of Medicine
- JOHN EDSON MILLIZEN, A.B., Administrator of the Research and Educational Hospitals
- HOWARD ALBERT HAZLETON, B.S., Business Manager for the Chicago Departments
- HARRY WISLER PEARCE, B.S., Superintendent of Buildings and Grounds for the Chicago Departments
- FRANKLIN C. DALLA, B.S., Director of Chicago Housing Division and Chicago Illini Union
- BUFORD HALL, M.D., Health Officer for the Chicago Departments and Assistant Professor of Medicine
- PAUL A. HARTLEY, A.M., Associate Director of Nonacademic Personnel
- WILMA ALLENE TROXEL, A.M., Librarian for the Chicago Departments
- WILLIAM A. PEEPLES, B.S., Manager of Public Relations for the Chicago Departments
- MAURICE JACKSON GALBRAITH, M.S., Dean of Student Affairs

Faculty of the College of Pharmacy and Heads of Cooperating Departments

- BEGANDO, JOSEPH SHERIDAN, B.S. in Commerce, M.S. in Business Organization and Operation, Ph.D. in Economics
Associate Professor of Pharmacy Administration and Assistant Dean of the College of Pharmacy
- BESANCON, ROBERT MARTIN, A.B. and A.M. in Physics
Assistant Professor of Physics
- BLOMQUIST, CONRAD A., B.S., M.S., and Ph.D. in Zoology
Assistant Professor of Zoology
- BORKE, MITCHELL L., B.S. in Pharmacy, M.S. in Chemistry
Instructor in Chemistry
- CARPENTER, PAUL DAVID, B.S. in Pharmacy, M.S. in Pharmacology
Assistant Professor of Zoology and Pharmacognosy
- CLARKE, CHARLES WILDMAN, B.S. and M.S. in Chemistry
Assistant Professor of Chemistry
- COLLINS, WILLIAM ROBERT, Ph.C., B.S. in Chemistry
Instructor in Pharmacy and Chief Pharmacist in Hospital Pharmacy
- CRANE, FRANK A., A.B. in Biology, M.S. in Botany, Ph.D. in Plant Physiology
Assistant Professor of Pharmacognosy
- DANIELS, RALPH, A.B., A.M., and Ph.D. in Chemistry
Assistant Professor of Chemistry
- DAVIS, JAMES EDGAR, A.B. and A.M. in Mathematics
Assistant Professor of Mathematics
- DEARDORFF, DWIGHT LUVERNE, B.S. in Pharmacy, M.S. and Ph.D. in Chemistry
Professor of Manufacturing Pharmacy
- DOERR, DALE W., B.S. and M.S. in Pharmacy
Instructor in Pharmacy

DOLK, LESTER CHARLES, A.B., A.M., and Ph.D. in English
 Assistant Professor of English

DUNBAR, JEAN M., B.Ed., M.S. and Ph.D. in Chemistry
 Assistant Professor of Manufacturing Pharmacy

EMIG, HERBERT MARTIN, B.S. in Pharmacy, M.S. in Pharmacology
 Assistant Professor of Pharmacy

GEARIEN, JAMES EDWARD, B.S. in Pharmacy, M.S. and Ph.D. in Chemistry
 Associate Professor of Chemistry

GOLD, BERNARD, B.S. in Biological Science, A.M. and Ph.D. in Psychology
 Instructor in Sociology and Psychology

GREENBERG, BERNARD, A.B. in Biology, A.M. and Ph.D. in Entomology
 Assistant Professor of Zoology

GRIBBENS, LORRAINE E., B.S. in Pharmacy
 Registered Pharmacist and Research Associate in Manufacturing Pharmacy

GRUNDMAN, ROSE ANN, B.S. and M.S. in Mathematics
 Instructor in Mathematics

JOSEPH, NORMAN ROSS, B.S. in Biochemical Sciences, Ph.D. in Medical Sciences and
 Physiology
 Assistant Professor of Chemistry (on leave 1955-1956)

KIRCH, ERNST RUDOLPH, Ph.C.; B.S., M.S., and Ph.D. in Chemistry
 Professor of Chemistry

KLEE, FLORENCE C., B.S. in Pharmacy, M.S. in Chemistry
 Instructor in Chemistry

MARTIN, DONALD M., A.B. and A.M. in English
 Instructor in English

NOVAK, MILAN VACLAV, Ph.D. in Bacteriology, M.D., D.Sc. (Honorary)
 Professor of Bacteriology and Head of the Department

PERKINS, ALFRED JAMES, B.S. and Ph.D. in Chemistry
 Associate Professor of Chemistry

REED, CHARLES ALLEN, B.S. in Geography, Ph.D. in Zoology
 Assistant Professor of Zoology

RUSZEL, VIRGINIA H., B.S. in Pharmacy
 Assistant Chief Pharmacist in Hospital Pharmacy

SERLES, EARL ROY, B.S. in Pharmacy, M.S. in Pharmacy and Chemistry, Ph.D. in
 Pharmacology, D.Sc. (Honorary)
 Professor of Pharmacy and Dean of the College of Pharmacy

SHKOLNIK, SAMUEL, Ph.G., LL.B., LL.M.
 Lecturer in Pharmaceutical Jurisprudence

SMOLENSKI, STANISLAUS J., Magister of Pharmacy, M.S. in Pharmacognosy
 Instructor in Pharmacognosy

SOUTHARD, WENDELL H., B.S. and M.S. in Pharmacy
 Instructor in Manufacturing Pharmacy

SUSINA, STANLEY V., B.S. in Pharmacy, M.S. and Ph.D. in Pharmacology
 Assistant Professor of Pharmacy

TERRY, RALPH EUGENE, B.S. in Pharmacy, M.S. in Chemistry
 Associate Professor of Pharmacy

TROXEL, WILMA ALLENE, A.M. in Library Science
 Associate Professor of Library Science and Librarian in the Quine Library of
 Medical Sciences

UNNA, KLAUS ROBERT W., M.D.
 Professor of Pharmacology and Head of the Department

VOIGT, RALPH F., B.S. in Pharmacy, M.S. in Chemistry, Ph.D. in Pharmacognosy
 Professor of Pharmacognosy and Pharmacology and Head of the Department,
 Director of Drug and Horticultural Experiment Station

WAKERLIN, GEORGE EARLE, Ph.D. in Physiology, M.D.
 Professor of Physiology and Head of the Department

WEBSTER, GEORGE LEWIS, B.S. in Pharmacy, M.S. and Ph.D. in Chemistry
 Professor of Chemistry and Head of the Department

WINTERS, EDWARD P., B.S. and M.S. in Pharmacy
 Instructor in Pharmacy

WINZLER, RICHARD J., Ph.D. in Biological Chemistry
 Professor of Biological Chemistry and Head of the Department

Committees

UNIVERSITY COMMITTEES FOR THE CHICAGO PROFESSIONAL COLLEGES

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- Admissions.* E. R. SERLES (Chairman), J. S. BEGANDO, G. R. MOON, G. E. MOORE, G. P. TUTTLE, R. F. VOIGT, G. E. WAKERLIN, G. L. WEBSTER, and the Freshman Adviser.
- Awards (Scholarships, Fellowships, and Prizes).* E. R. KIRCH (Chairman), P. D. CARPENTER, H. M. EMIG, FLORENCE KLEE.
- Beneficent Fund.* W. R. COLLINS (Chairman), C. A. BLUMQUIST, FLORENCE KLEE, MARY M. SCANLAN (Nonacademic), W. H. SOUTHARD.
- Curriculum.* E. R. SERLES (Chairman), J. S. BEGANDO, J. E. DAVIS, J. E. GEARIEN, E. F. POTTHOFF, S. V. SUSINA, R. E. TERRY, R. F. VOIGT, G. L. WEBSTER.
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- Executive.* E. R. SERLES (Chairman), J. S. BEGANDO, D. L. DEARDORFF, R. F. VOIGT, G. L. WEBSTER.
- Honors Day Convocation.* C. W. CLARKE (Chairman), F. A. CRANE, D. M. MARTIN, E. E. VICHER, DOROTHEA WHEELER.
- Schedule.* R. E. TERRY (Chairman), F. A. CRANE, E. R. KIRCH.
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- Student Visitations to Industrial Plants.* J. M. DUNBAR (Chairman), C. A. BLUMQUIST, W. R. COLLINS, D. W. DOERR, E. R. KIRCH.
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College of Pharmacy

Location, History, and Administration

LOCATION

The College of Pharmacy of the University of Illinois is located in the great medical center on the west side of Chicago. The work of the College of Pharmacy is centralized in the new East Unit of the Dentistry-Medicine-Pharmacy Building at 833 South Wood Street. The work of the Colleges of Dentistry and Medicine, the Graduate College, and the School of Nursing is centralized in the Dentistry-Medicine-Pharmacy Building which faces on Polk, Wood, and Wolcott Streets. The campus of the University of Illinois Chicago Professional Colleges, which is located about three miles from the Loop, or main business district of the city, can be reached conveniently by elevated train, bus, or automobile.

The University of Illinois Research and Educational Hospitals located at 840 South Wood Street and the Illinois Eye and Ear Infirmary located at 904 West Adams Street provide excellent facilities for the teaching of Hospital Pharmacy to both undergraduate and graduate students.

The Drug Plant Experiment Station, located at Lisle, Illinois, provides a unique opportunity for the development of drug plant research and the training of graduate students who are majoring in the field of Pharmacognosy. The facilities of the Station are augmented by the very extensive plant culture programs of the Morton Arboretum.

HISTORY

The College of Pharmacy was originally an independent proprietary institution before becoming affiliated with the University of Illinois. It is by far the oldest, having been organized as the Chicago College of Pharmacy on September 5, 1859, eight years before the University itself was incorporated. It was the third institution of its kind in the United States. Activities were suspended during the Civil War, and the College was not reopened until 1870. When its property was destroyed by the Chicago fire of 1871, the pharmacists of the world promptly came to the rescue, those of Great Britain in particular. They enabled the College to reopen again in 1872, with new equipment, including a library, much better than ever before. In 1896, it became the School of Pharmacy of the University of Illinois, and in 1932 its name was changed to the College of Pharmacy, when the curriculum leading to the degree of Bachelor of Science in Pharmacy was announced. In 1939-1940 the College of Pharmacy was moved from its former quarters, 715 South Wood Street, to the Dentistry-Medicine-Pharmacy Building at 808 South Wood Street.

Teaching and research facilities of the College were greatly expanded by the completion and occupancy of a new \$5,540,000 classroom and laboratory building prior to the opening of the fall quarter of 1954. The new six-story East Unit of the Dentistry-Medicine-Pharmacy Building at 833 South Wood Street now provides administrative and general offices for the College of Pharmacy, lecture halls, classrooms, manufacturing, research, teaching, and dispensing laboratories, storage space for both teaching and research materials, and space for 800 student lockers. With the added teaching facilities, the College of Pharmacy is planning the establishment of a postgraduate teaching program, which will enable the University to render state-wide services to the 4,200 retail drugstores and the 7,000 practicing pharmacists in Illinois.

The present work of the Graduate College is described in detail in a separate announcement.

ADMINISTRATION

Under the laws of the state of Illinois, the Board of Trustees of the University of Illinois is composed of eleven members, including the Governor and the Superintendent of Public Instruction who serve *ex officio*, nine members being elected by the people of the state for terms of six years.

Under the University Statutes adopted by the Board of Trustees, the affairs of the University are administered by the President, the Provost, the Vice-President, the Deans and Directors of the Colleges and Schools, and other administrative officers, most of whom are located on the main campus of the University at Urbana. The Chicago departments are organized in three colleges — Dentistry, Medicine, and Pharmacy — each college having its own Dean, and all being under the general supervision of the Vice-President.

The University Senate is composed of members of the faculty who have full professorial rank and others who are in charge of departments, both at Urbana and in Chicago.

Members of the faculty in each college cooperate with those in other colleges of the University, both in instruction and in research. Staff members of the basic science departments in the College of Medicine also give instruction for students of dentistry, pharmacy, and occupational therapy.

Accreditation

The College of Pharmacy of the University of Illinois is fully accredited as a Class A College by the American Council on Pharmaceutical Education. The Council is the only accrediting agency for the profession of Pharmacy, and is an affiliate of the American Council on Education.

Library and Museums

The library contains a comprehensive collection of standard and modern works on medical, dental, and pharmaceutical subjects, with over 1,100 current periodicals and more than 100,000 books. It is used by professional men throughout the Chicago area, and its service to the University staff and students is supplemented by loan arrangements with other libraries. The College of Pharmacy has a museum including more than 10,000 specimens of crude drugs and technical products. One collection is classified according to botanical origin, and is arranged in cases illustrating habitat, commerce, etc. Another collection contains every drug officially

listed in the United States Pharmacopoeia since 1820 or in the National Formulary since 1888.

Recreational Facilities

The social and recreational center for students, alumni, and faculty members is the Chicago Illini Union Building, 715 South Wood Street. Its facilities include a cafeteria, grill, soda fountain, browsing room, music room, gymnasium, meeting rooms, and game rooms. Intramural sports under a trained director are encouraged, and facilities and equipment are available for softball, touch football, horseshoes, tennis, archery, wrestling, fencing, badminton, basketball, handball, and ping pong. Through special arrangements, the swimming pools of the nearby YMCA and YWCA are available to students.

Requirements for Admission

Applications for admission to the College of Pharmacy should be addressed to the Examiner and Recorder, 1853 West Polk Street, Chicago 12. Official credentials, covering all collegiate and secondary school work done by the applicants, must be sent directly from each institution attended. Credentials accepted for admission become the property of the University and are kept permanently in the files. Since space limitations make it necessary to restrict enrollment, applicants should have their credentials mailed to the Examiner and Recorder as early as possible. Applications must be completed between January 1 and May 31 of each year. New classes enroll only in the fall, usually late in September.

Age. The minimum age for admission is sixteen years.

Health Certificates. For each applicant whose record meets the requirements for admission, or who appears likely to meet them before the opening of the school year when he desires to enroll, the health officer at the last institution attended will be requested to furnish a certificate concerning the applicant's health. When the health service of an institution can not supply the desired information, the applicant should have his family physician send in a report on his physical condition. If a student's application for admission is approved at a date so late as to make it impossible to obtain a health certificate before classes begin, he may be registered temporarily, pending a satisfactory report from the University Health Service.

High School Requirements. Applicants must be graduates of an accredited high school offering a full four-year course, or pass an entrance exami-



Biological Sciences Laboratory
Zoology, Comparative Anatomy, Histology, Entomology, and Pharmacognosy

nation covering any high school deficiencies. Fifteen of the units required for high school graduation must include two majors (of three units each) and one minor (of two units) from the fields of English, foreign language, mathematics, science, and social studies, with a total of at least nine units from these fields. One major must be English. At least two units must be in mathematics, including algebra and plane geometry. The six remaining units necessary for admission may be selected from any of the high school subjects which are accepted by an accredited high school toward its diploma and which meet the standards for accrediting as defined by the University of Illinois. Two units of science (including biology) and two units of social studies are desirable, although not required.

Selection of Applicants. As the capacity of the College of Pharmacy is limited, selection of applicants is necessary. Selection is made by a Committee on Admissions. In order to be considered for admission, a student must be eligible to return to the last institution attended, and if he has completed twelve or more semester hours of college credit, he must have maintained at least a C average, exclusive of Freshman Hygiene, R.O.T.C., and Physical Education.

Applicants who meet in full the course and grade-average requirements will be notified to appear for aptitude tests and interviews. In selecting applicants, the Committee will take into consideration the candidate's personal qualifications, including such factors as his interest in the profession of Pharmacy, scholastic records from schools and colleges previously attended, recommendations from teachers and employers, health records, aptitude tests, and interviews. Applicants will receive formal notification of the action of the Committee on Admissions.

Renewing Applications. An applicant who has been accepted for admission, but fails to enroll, and who wishes to enter in a subsequent year, must reapply for admission and must meet all the requirements in force at the time of the new application. Students who fail to gain admission may reapply after January 1 of the following year.

Admission with Advanced Standing. Each applicant, even though submitting advanced credits from an accredited college or university, must appear for aptitude tests and personal interviews. All applicants are selected on a competitive basis. The College of Pharmacy accepts as transfer credits such liberal arts courses as are required for the degree of Bachelor of Science in Pharmacy, provided the grade attained by the student is C or better, and further, that not more than five years has elapsed between the completion of the course and the registration for the next course in logical sequence. This latter requirement may be waived, provided the student, by examination, demonstrates proficiency in the subject for which he may request advanced credit. Certain technical courses in Pharmacy are required during the freshman year of the curriculum. Hence, no student can receive full credit for his freshman year in another college or university which does not offer technical courses in Pharmacy in the freshman year.

Any student who wishes to transfer from another college of pharmacy, who can not complete the requirements for a Bachelor of Science degree in Pharmacy in three years or less, must compete for admission to the Freshman Class.

Deposit. Each applicant who is assigned a place in any class in the College of Pharmacy is required to make a deposit of \$15 within two weeks of the date of notification that he will be admitted. This deposit will be applied on fees assessed against him at the time of registration. Failure to pay this deposit within the specified time will subject the applicant to forfeiture of his place. No deposit will be returned unless the applicant notifies the Examiner and Recorder, at least thirty days before the time

for registration, that he will not be able to enter. The Director of Admissions and Records is authorized to make refunds after that time when, in his judgment, the circumstances so justify.

Physical Examination. Each applicant who is accepted for admission must report to the University Health Service for a physical examination before registration. Appointments for this examination are usually made in the month preceding registration. Each applicant is also urged to report to his family physician and dentist for a complete examination, including Schick and Dick reactions and smallpox vaccination. The applicant's eyes should also be examined and fitted with glasses, if needed. A statement from the family physician regarding findings and immunization procedures should be forwarded to the Health Service of the University.

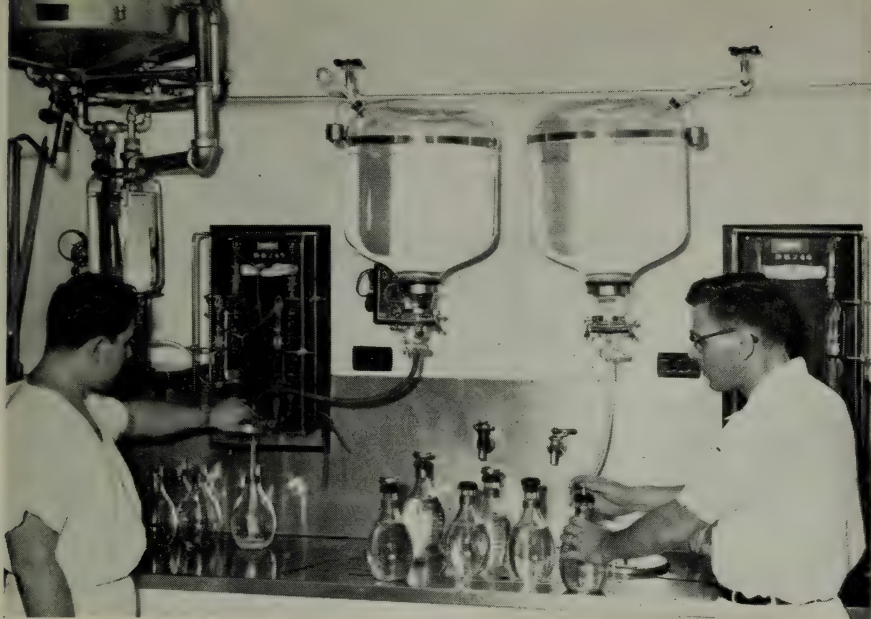
Requirements for Graduation

A candidate for the degree of Bachelor of Science in Pharmacy must meet the following general requirements: (1) show evidence of good moral character, (2) pay all indebtedness to the University, (3) obtain passing grades in all courses of the required curriculum, and (4) have completed the Pharmacy curriculum of 202 quarter hours or more, with a minimum average of C, equivalent to a minimum grade-point average of 3.0 for the total number of hours of work in the College of Pharmacy, including work taken elsewhere and accepted for advanced credit. Either the first three years of work, or the last year, must be done in the College of Pharmacy.

BACHELOR OF SCIENCE REQUIREMENTS FOR PH.C. GRADUATES

Graduates of the University of Illinois College of Pharmacy with the degree of Pharmaceutical Chemist may apply for readmission to the College for courses leading to the degree of Bachelor of Science in Pharmacy. Approved candidates shall be required to complete a program of courses designed (1) to supplement existing deficiencies in fundamental and basic subjects and (2) to develop in the candidate a contemporary level of knowledge embodied in advanced professional subjects from the current curriculum of the College of Pharmacy.

No general statement of requirements is applicable, and each such application will be subject to evaluation and approval by the Dean of the College of Pharmacy.



Parenteral Solution Manufacturing Laboratory

State Registration of Pharmacists

The Pharmacy Practice Act of the state of Illinois in effect January 1, 1956, provides that:

"Any person shall be entitled to registration as a registered pharmacist who is not less than twenty-one (21) years of age, of good moral character and temperate habits, a graduate of an accredited high school or whose education is equivalent thereto in the discretion of the Board, a graduate of a course of at least four academic years with a pharmaceutical degree from a school or college of pharmacy or department of pharmacy of a university recognized and approved by the Department of Registration and Education, and who has had at least one (1) year of pharmacy apprenticeship experience from and after the successful completion of at least one (1) academic year of attendance in a school or college of pharmacy or department of pharmacy of a university recognized and approved by the Department, in assisting in the practice of pharmacy under a registered pharmacist in a drug store or pharmacy in this State or in any other state, or in a drug store or pharmacy in a hospital, or similar institution conducted by the Army, Navy, Air Corps, Marine Corps, Coast Guard, Veteran's Administration, or Public Health Service of the United States, or by the State Militia or National Guard of any state thereof, where the practice of pharmacy, including the compounding of prescriptions, is carried on, and who shall pass a satisfactory examination prescribed by the Board of Pharmacy.

"No person shall be registered as a registered pharmacist who is not a citizen of the United States, or who has not made a declaration of intention to become a citizen, or who, having made such declaration of intention, has not filed a petition for naturalization within thirty days after becoming eligible to do so, and no certificate of registration as a registered pharmacist shall be continued or renewed for any person, who having made such declaration of intention has not filed a petition for naturalization within thirty days after becoming eligible to do so.

"The Department of Registration and Education may in its discretion register as a registered pharmacist, without examination, any person who is duly registered as a pharmacist by examination in some other state, provided that the said person shall produce evidence satisfactory to the Board of having had the required secondary and professional education and training, and is possessed of good moral character and temperate habits, as required of applicants for registration as pharmacists under the provisions of this Act; provided, that persons of good moral character and temperate habits who have become registered as pharmacists by examination in other states prior to the effective date of this Act, shall be required to satisfy only the requirements for registration as pharmacists which existed in this State at the time they became registered as pharmacists in such other states, and provided also, that the state in which each said person is registered shall, under like conditions, grant reciprocal registration as a registered pharmacist, without examination, to a registered pharmacist duly registered as such by examination in this State. The person who shall be registered as a registered pharmacist, by reciprocity, under the provisions of this subsection, shall have the authority to practice the profession of pharmacy in this State, the same as a registered pharmacist who shall be registered, by examination, under the provisions of this Act."

The Pharmacy Practice Act provides further that:

"Any person shall be entitled to registration as a registered pharmacy apprentice who is of the age of sixteen (16) years or over, of good moral character and temperate habits, employed in a drug store or pharmacy in this State under the personal supervision of a registered pharmacist in good standing in this State, a graduate from an accredited high school or comparable school or educational institution recognized by the Department, and who shall have filed a written application therefor, on a form to be prescribed and furnished by the Department for that purpose, accompanied by a fee of Two (2) dollars. . . . The pharmacy apprenticeship

experience required of any applicant for registration as a registered pharmacist . . . shall be computed from and after the successful completion of at least one (1) academic year of attendance in a school or college of pharmacy or department of pharmacy of a university recognized and approved by the Department.

"The year of the required pharmacy apprenticeship experience under this Act shall consist predominantly in assisting registered pharmacists under their direct personal supervision in the practice of pharmacy, including, but not limited to, the compounding and dispensing of prescriptions, the preparing of pharmaceutical preparations, the keeping of records and the making of reports required under local, state and federal laws relating to the operation of a pharmacy and to the practice of pharmacy, and such other duties as may be recommended by the Board of Pharmacy and approved by the Department of Registration and Education."

Student Housing

Excellent living accommodations in the new Residence Hall are available to all students in the Colleges of Pharmacy, Medicine, and Dentistry. This residence unit is conveniently located to all campus facilities and is equipped with the finest furnishings and equipment.

The Residence Hall has 13 single rooms and 196 double rooms. The student rooms are unusually large. Double rooms are 11 feet 7½ inches by 16 feet 10 inches and single rooms are 8 feet 10 inches and 8 feet 4 inches by 16 feet 10 inches. Double rooms are equipped with two single beds and mattresses, bedding, two chests with mirrors, two desks, two study chairs, a lounge chair, study lamps, and waste baskets. Single rooms are equipped proportionately. Each resident has an individual closet 3 feet by 3 feet.

Each floor of the building is equipped with a central washroom and shower room. Trunk storage space is available on the first floor of the building. The laundry room is equipped with automatic washers and driers. The building has two automatic elevators.

Residence hall cost includes room and board (twenty meals per week) and is payable in full or quarterly in advance. The cost includes the services of housemen for general maintenance work and maids who make beds and clean the rooms five days each week. Single rooms are \$875 per student for three quarters and double rooms \$820 per student for three quarters.

For information about housing, write to the Director of Housing, 721 South Wood Street, Chicago 12.

Fees and Expenses

A schedule of fees for regular full-time students in the College of Pharmacy is listed below. One-third of each year's fees is payable on registration for each quarter. The Board of Trustees of the University reserves the right to change the fees at any time through publication in the annual announcements.

	Tuition Fee	Building and Laboratory Service Fee	Union Building Service Charge	Total
FIRST YEAR				
Illinois	\$132.00	\$ 66.00	\$10.50	\$208.50
Non-Illinois	351.00	84.00	10.50	445.50
SECOND YEAR				
Illinois	132.00	96.00	10.50	238.50
Non-Illinois	351.00	114.00	10.50	475.50
THIRD YEAR				
Illinois	132.00	96.00	10.50	238.50
Non-Illinois	351.00	114.00	10.50	475.50
FOURTH YEAR				
Illinois	132.00	102.00	10.50	244.50
Non-Illinois	351.00	120.00	10.50	481.50

Students registered for twelve credit hours or less pay tuition fees at the rate of \$3.50 a credit hour if residents of Illinois, or \$11.00 a credit hour if nonresidents. For thirteen credit hours or more, the full tuition fees are charged. Students taking twelve quarter hours or less will also pay \$2.50 per quarter hour of credit as a building and laboratory service fee if residents of Illinois, or \$3 per quarter hour of credit if nonresidents. In no case will a student be assessed a greater fee than is paid by full-time students. All part-time students will pay the full Union Building Service Charge.

Late Registration Fee. Former students who register after the regular registration days in any quarter pay a late registration fee of \$5.

Special Examination Fee. For any special examination to remove a failure, the fee is \$5.

Study-list Change Fee. A fee of \$1 is charged for every study-list change slip issued later than the Saturday noon following the first day of classes. This rule applies also to registration for electives after the dates specified for regular registration.

Transcript Fee. Each student who has paid all his University fees is entitled to receive, without charge, one transcript of his record. For each additional transcript the fee is 50 cents.

Listener's Fee. For each credit hour, persons not connected with the University who are permitted to attend classes as listeners pay \$10 if residents of Illinois, \$40 if nonresidents.

Fees for Unclassified Students. Fees charged unclassified students are based on the amount of work taken.

Service Charge for Deferred Fees. In cases of necessity, students may arrange for deferment of fees by calling at the Business Office, 128 Dentistry-Medicine-Pharmacy Building. A service charge of ten per cent of the amount of fees deferred, not to exceed \$2 a quarter, will be charged for the privilege of deferring fees, and this charge must be paid



New Student Residence Hall

on the day of registration. If deferred fees are paid in full within ten days after registration, the service charge will be refunded, except that a minimum service charge of \$1 will be retained by the University in all cases. The service charge, not less than one-third of the current quarter's fees, and all fees and charges from previous terms must be paid on the day of registration. Failure to meet payments of fees within the time limits will cancel at once the privilege of attending classes. Registration is not completed until fees are paid in full, and no credit will be recorded for class work completed unless all fees and other charges have been paid in full. Deferred payment of fees delays the completion of registration, but extends the privilege of attending classes pending payment of fees in full as described above.

Refunds. If a student withdraws within ten days after the beginning of instruction, his total fees (except the \$15 deposit) will be refunded. After ten days and before the expiration of one month, a refund of two-thirds of his total fees will be made. After one month and before the expiration of two months, a refund of one-third of these fees will be made. After the expiration of two months, no part of the fees will be refunded.

EXPENSES

From \$90 to \$125 a month may be regarded as adequate for the ordinary living expenses of a student in Chicago, exclusive of books, clothing, railroad fare, and miscellaneous needs. The expense for books averages between \$40 and \$50 a year.

Scholarships, Honors, and Prizes

SCHOLARSHIPS

General Assembly Scholarships. Each member of the General Assembly may make one nomination annually. Nominations must be filed with the President of the University on or before the opening day of the semester or term in which the scholarships are to become effective. Holders of these scholarships are exempt from tuition fees, but not from other fees.

State Military Scholarships. Any person who served in the Army, Navy, or Marine Corps during World War I, or since September 16, 1940, and who has been honorably discharged is entitled to a scholarship in the University of Illinois if he possesses the full entrance requirements and if he was a resident of the state of Illinois or a student in the University of Illinois at the time of enlistment. This scholarship exempts the holder

from the tuition fees in any course in the University for four years. Students may not use this State Military Scholarship while receiving financial assistance from any division of the federal government. Applications for these scholarships may be secured from the Office of Admissions and Records.

Students may attend under the Korean G. I. Bill (Public Law 550).

HONORS

Graduation with Honors. A student who complies with the requirements for graduation, and who attains in all work presented for the degree the average grade specified below, may be recommended by the University Senate for the honors stated: for an average grade of not less than 4.35, graduation with honors; for an average grade of not less than 4.75, graduation with high honors. The honors awarded are noted on the diploma and in the Commencement program.

Honors Day Convocation. Under the supervision of the College of Pharmacy Committee on Awards, an Honors Day Convocation is held annually. Certificates indicating attainment of honors are awarded to members of all four classes who have maintained an average grade of not less than 4.35, and certificates indicating attainment of high honors are awarded to members of all four classes who have maintained an average grade of not less than 4.75. These averages are determined at the beginning of the third quarter of each year. In addition, the prizes indicated in the following section are awarded at this convocation.

PRIZES

Borden Scholarship Award. The Borden Company, through the Borden Company Foundation, Inc., has established in the College of Pharmacy the Borden Scholarship Award. This award consists of a \$300 scholarship, which is given annually to the junior student who has attained the highest scholastic average upon entering the third quarter of the junior year.

Elich Prize. Mrs. Herman Elich, in memory of Mr. Herman Elich '96, who as an alumnus of the College of Pharmacy originated the Elich Prize, continues to offer annually a prize of \$25 to the senior student who attains the highest scholastic average in Pharmacognosy.

Ethel J. Heath Scholarship Key. Gamma Chapter of Lambda Kappa Sigma offers annually an honor key to the graduating sorority member having the highest scholastic average upon entering the third quarter of

the senior year. The recipient must have attained a grade average of at least 4.0 to qualify for the award.

Illinois Pharmaceutical Association Women's Auxiliary Award. The Women's Auxiliary of the Illinois Pharmaceutical Association offers annually an award of \$50 to the outstanding graduating woman student of the College of Pharmacy. This award is based upon character, leadership, and scholastic attainment in Pharmacy.

Rho Chi Prize. Phi Chapter of Rho Chi, honorary pharmaceutical society, awards annually an embossed copy of the United States Dispensatory as a prize to the sophomore student who has attained the highest scholastic average upon entering the third quarter of the sophomore year.

Van Schaack Prize. By the will of Cornelius P. Van Schaack, the College of Pharmacy received in 1937 the sum of one thousand dollars to be held in trust by the University. The annual income from this bequest is used for the purchase of a gold medal, known as the C. P. Van Schaak Award, which is presented to the senior student who has attained the highest scholastic average in chemistry upon entering the third quarter of the senior year.

From time to time other prizes are made available and are also awarded at the annual Honors Day Convocation.

Loan Funds

Several loan funds have been established for the benefit of worthy students who have satisfactorily completed at least one year of work in the University and are in need of financial aid in order to finish their courses. Information concerning these funds and the regulations governing loans may be obtained from the office of the Dean of the College.

American Pharmaceutical Association Women's Auxiliary Loan Fund. The Women's Auxiliary of the American Pharmaceutical Association has established a loan fund for women students enrolled in the accredited colleges of pharmacy. Applications for loans may be made by women students who have maintained a satisfactory scholastic record in their colleges of pharmacy. The amount of the loan granted is determined on the basis of the need of the applicant, as shown by supporting recommendations from the Dean or other qualified officer of the College.

Ebert Loan Fund. In 1907, following the death of Mr. Albert E. Ebert, who had taken an active part in the development of the College of Pharmacy, the Alumni Association of the College established a fund in mem-

ory of Mr. Ebert. Later contributions were made by the Women's Organization of the Chicago Retail Druggists' Association to establish a loan fund. In 1931 the funds were combined into one known as the Albert E. Ebert Loan Fund. The Class of 1932 also contributed to this fund. Loans are made to deserving students.

Goldenrod Ice Cream Company Loan Fund. Established in 1943, through a gift from the Goldenrod Ice Cream Company of Chicago, this fund provides for loans to students.

Goldstine Emergency Loan Fund. This fund for emergency loans to students was established by the Board of Trustees in 1933. The name was changed in 1943 when the fund was increased by a gift from Mr. Harry Goldstine.

Organizations

ALUMNI ASSOCIATION OF THE COLLEGE OF PHARMACY

President: REED G. HENNINGER '29, 310 Scottswood Avenue, Riverside, Illinois.

Vice-President: SAMUEL A. BRODY '24, 6405 North Hamilton Avenue, Chicago, Illinois.

Treasurer: GEORGE L. WEBSTER '22, 1000 Forest Avenue, Wilmette, Illinois.

Secretary: SAMUEL SHKOLNIK '25, 111 West Washington Street, Chicago, Illinois.

Trustees (in addition to the above officers):

MILTON G. CHRISTY '50, 908 Mary Street, Pekin, Illinois.

FRANK R. KOZLICKI '39, 5047 North Nashville Avenue, Chicago, Illinois.

RALPH CARPENTER '30, 150 South Michigan Avenue, Villa Park, Illinois.

Representative (on General Alumni Board):

HARRY E. LEVIN '23, 947 North Oak Park Avenue, Oak Park, Illinois.

STUDENT BRANCH OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

The Student Branch of the American Pharmaceutical Association is the only organization which offers professional membership to all students in the College of Pharmacy. The organization maintains an active professional program, and cooperates with the Chicago Branch of the

A. Ph. A. in the development of the annual banquet of that organization. Approximately seventy per cent of the students enrolled in the College of Pharmacy are active members of the association. Seniors in good standing in the Student Branch at the time of their graduation are accorded full membership in the American Pharmaceutical Association until January 1 of the succeeding year.

PHI MU PHI

Phi Mu Phi is an honorary musical fraternity open to students of the Chicago Professional Colleges who take an active part in the musical organizations.

RHO CHI

Phi Chapter of Rho Chi, national honorary pharmaceutical society, organized to promote the advancement of the pharmaceutical sciences, is located at the College of Pharmacy. Students who have completed 115 quarter hours of work with an average of at least 4.0 are eligible for membership.

OTHER PHARMACEUTICAL ASSOCIATIONS

The Chicago Branch of the American Pharmaceutical Association, composed of representative pharmacists of Chicago and vicinity, holds its monthly meetings at the College of Pharmacy. Students of Pharmacy are invited to attend.

The College of Pharmacy holds membership in the American Association of Colleges of Pharmacy. The object of the association is to promote the interests of pharmaceutical education, and all institutions holding membership must maintain certain minimum requirements for entrance and graduation. Through the influence of this association, higher standards of education have been adopted.

Plan of Instruction

Pharmacy is a health profession concerned with the selection, preservation, standardization, and preparation of drugs and medicinals. It is based on two groups of fundamental sciences, the physical and the biological. Advancements in these sciences have contributed so much to the health professions that it is imperative for the pharmacist to be thoroughly trained in the fundamental sciences as well as in the applied and professional subjects. Accordingly, ample time in the curriculum of the



Manufacturing Pharmacy Laboratories

College of Pharmacy is devoted to the physical and biological sciences and other subjects necessary to the practice of Pharmacy.

As there are several allied and related fields to which individuals with a pharmaceutical training are particularly adaptable, each student is permitted to elect specialized courses during his fourth year.

The College of Pharmacy offers a four-year curriculum, leading to the degree of Bachelor of Science in Pharmacy, as summarized on pages 27 and 28. The courses included in the basic curriculum are required of all students. Elective courses for the fourth year are determined through consultation with the class adviser.

SIGNIFICANCE OF GRADES OF THE COLLEGE OF PHARMACY

Grades given for work in the College of Pharmacy are as follows: A, excellent; B, good; C, fair; D, poor; E, failure. Numerical equivalents of these grades on the basis of which averages are made are as follows: each hour of A grade carries 5 grade points; each hour of B grade, 4 grade points; each hour of C grade, 3 grade points; each hour of D grade, 2 grade points; each hour of E grade, 1 grade point.

In addition to the above grades, the following symbols are used. The symbol W indicates withdrawal from the course with permission of the Dean. The grade of E may be given to students withdrawn from the course who were doing unsatisfactory work at the time of withdrawal. Withdrawal because of military service is subject to special regulations. If a student is absent from the final examination without excuse acceptable to the Dean, the symbol Ab. is used and counts as a failure. If a student is absent from the final examination with excuse acceptable to the Dean, the symbol Ex. is used. The mark of Ex. entitles the student to an examination later without fee, but becomes a failure, unless removed at

the first opportunity approved by the Dean. The symbol Dr. indicates that the student was dropped for disciplinary reasons.

In order to qualify for graduation, a student shall have completed successfully a minimum of 202 quarter hours and earned a minimum of 606 grade points. A grade-point average of 3.0, or C, for all work in the College of Pharmacy, including work taken elsewhere and accepted for advanced credit, is required for graduation. Failures of required courses in the curriculum must be removed by repeating successfully those courses in which a grade of E is obtained. Students withheld from promotion or graduation on a basis of an insufficient grade-point average may earn the grade points necessary by repeating courses in which a previous grade of D was received or by the completion of elective courses acceptable to the Dean. When any course is repeated only the grade last received will be used in determining the grade-point average.

Probationary Status. Any student who fails to attain a 3.0 average in the work for which he receives a grade at the end of a quarter will be placed on probation. A student can remove himself from probationary status only upon earning a 3.0 average during his next period of registration. A student who is placed on probation may be required to limit his schedule until probationary status is removed.

Refusal of Further Registration Because of Poor Scholarship. A student who fails to remove himself from probationary status during his next period of registration may be dropped for poor scholarship. A student who receives failing grades in one-half or more of the work for which he receives a grade at the end of a quarter will be dropped for poor scholarship. A student who is refused further registration because of poor scholarship may petition the Committee on Student Status and Promotion for readmission. Reconsideration of the case of a student dropped for poor scholarship does not guarantee readmission. Except for unusual circumstances, a student may be reinstated only once.

Promotion to the Next Higher Class. Any student who, at the end of the academic year, has completed substantially all of the normal program, and has a cumulative grade-point average of 3.0 or better, will be promoted to the next higher class. A student who, at the end of the academic year, has a cumulative grade-point average of less than 3.0 may be promoted to the next higher class only with the approval of the Committee on Student Status and Promotion. If a student's cumulative grade-point average is substantially below 3.0, promotion to the next higher class may be withheld.

Summary of Curriculum in Pharmacy

BASIC CURRICULUM

FIRST YEAR

	1st Quarter			2d Quarter			3d Quarter			Total
	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.	Cr.
Chemistry 143, 144, 145.....	4	3	5	4	3	5	3	6	5	15
English 120, 121, 122.....	3	0	3	3	0	3	3	0	3	9
Mathematics 140, 141, 142.....	3	0	3	3	0	3	3	0	3	9
Orientation 160.....	1	0	0	..	..	..	..	..	..	0
Pharmacy 100, 101, 102.....	2	0	2	2	0	2	2	2	3	7
Zoology 161, 162, 163.....	2	6	4	3	6	5	2	6	4	13
	15	9	17	15	9	18	13	14	18	53

SECOND YEAR

Chemistry 146	4	6	6	4	6	6	4	6	6	6
Chemistry 147, 148				4	6	6	4	6	6	12
Pharmacy 103, 104, 105	2	4	4	2	4	4	2	4	4	12
Pharmacy Administration 124							3	0	3	3
Physics 150, 151, 152	3	3	4	3	3	4	3	3	4	12
Psychology 125				3	0	3				3
Sociology 123	3	0	3							3
	12	13	17	12	13	17	12	13	17	51

THIRD YEAR

Bacteriology 280.....	..	..	..	..	..	..	3	6	6	6
Chemistry 240.....	4	3	5	..	..	..	..	..	..	5
Chemistry 331, 332.....	..	..	..	3	6	5	3	6	5	10
Pharmacognosy 290, 291, 292.....	2	6	4	2	6	4	2	6	4	12
Pharmacy 200, 201, 202.....	2	3	3	2	3	3	2	3	3	9
Physiology 260, 261.....	3	3	4	3	3	4	..	..	..	8
	11	15	16	10	18	16	10	21	18	50

FOURTH YEAR

Bacteriology 281	2	0	2							2
Chemistry 244				2	6	4				4
Chemistry 342	4	0	4							4
Pharmacology 262, 263, 264	4	0	4	4	2	4	3	3	4	12
Pharmacy 203, 204, 205	3	0	3	3	0	3	1	4	3	9
Pharmacy Administration 230							4	0	4	4
	13	0	13	9	8	11	8	7	11	35

Electives.....	5 - 7	5 - 7	5 - 7	15-21
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Basic curriculum 189 hours (required of all students).

ELECTIVE SUBJECTS AVAILABLE TO SENIOR STUDENTS

	Didactic	Laboratory	Credit Hours
First Quarter:			
Chemistry 245.....	4	0	4
Chemistry 346.....	2	9	5
Pharmacy 206.....	1	6	3
Pharmacy 207.....	1	6	3
Pharmacy 208.....	1	6	3
Pharmacy Administration 220.....	2	3	3

Second Quarter:

Chemistry 340.....	4	3	5
Pharmacognosy 301.....	2	9	5
Pharmacognosy 310.....	2	3	3
Pharmacy 206.....	1	6	3
Pharmacy 207.....	1	6	3
Pharmacy 208.....	1	6	3
Pharmacy Administration 221.....	4	0	4
Zoology 304.....	3	3	4

Third Quarter:

Chemistry 343.....	2	9	5
Chemistry 349.....	2	9	5
Chemistry 350.....	3	6	5
Entomology 270.....	3	3	4
Pharmacognosy 302.....	3	6	5
Pharmacognosy 311.....	1	6	3
Pharmacy 206.....	1	6	3
Pharmacy 207.....	1	6	3
Pharmacy 208.....	1	6	3
Pharmacy 209.....	1	6	3
Pharmacy Administration 248.....	3	0	3

Preregistration of students to complete the senior year will be held subsequent to the completion of the junior year. Students will be asked to indicate their desires and objectives in terms of (1) graduate study and training and (2) study areas of particular interest.

The following elective programs are recommended:

A. For students not planning to undertake graduate study:

First Quarter	Second Quarter	Third Quarter
Pharmacy 206	Pharmacy 208	Entomology 270
Pharmacy 207	Pharmacy Administration 221	Pharmacy 209
Pharmacy Administration 220		Pharmacy Administration 248
B. For students anticipating graduate training in Pharmacy:		
Chemistry 245	Chemistry 340	Chemistry 349
Pharmacy 206	Pharmacy 207	Entomology 270
		Pharmacy 208
C. For students anticipating graduate training in Chemistry:		
Chemistry 346	Chemistry 340	Chemistry 349
D. For students anticipating graduate training in the Biological Sciences:		
Chemistry 245	Pharmacognosy 301	Entomology 270
	Zoology 304	Pharmacognosy 302

Courses of Instruction

The following list of subjects is arranged in alphabetical order. The description of each course includes a statement of the number of lecture, recitation, or laboratory periods each week (each period being one clock hour unless otherwise specified). The total clock hours, with their distribution in didactic and laboratory work, are shown in the summary of the curriculum, which also shows the credit in quarter hours. In the description of each course the quarter during which it is given is indicated by a Roman numeral, "I" for the first quarter, "II" for the second quarter,

and "III" for the third quarter, followed by an Arabic numeral in parenthesis indicating the number of credit hours. For example, "I, (3)" means that the course is given in the first quarter for three hours of credit. The expression "I, II, or III" is used if the course may be taken in any quarter.

BACTERIOLOGY

280. *General Bacteriology and Microbiology*. Characteristics of bacteria, yeasts, and molds; their relation to disease; biologic products prepared from them; action of antiseptics, disinfectants, and sterilizants; cleaning and sterilizing glassware; preparation of culture media and staining solutions; preparation of cultures and stained mounts; isolation and identification of organisms from mixed cultures; milk and water counts; disinfectant standardization; antibiotics. Three lectures and three 2-hour laboratory periods each week. III, (6).
281. *General Bacteriology and Microbiology*. Continuation of Course 280. Viruses, bacteriophage, pathogenic protozoa and metozoa, mycology and pathogenic fungi, epidemiology and control of communicable diseases and public health administration. Two lectures or recitations each week. I, (2). Prerequisite: Bacteriology 280.

CHEMISTRY

- 143, 144, 145. *General Chemistry and Qualitative Analysis*. A study of the fundamental concepts of physical science; the physical laws as they are needed for the continuing study of chemistry; theories of atomic and molecular structure; the periodic properties of the elements; the formation of compounds; descriptive chemistry; properties of positive and negative ions, and the reactions utilized in the systematic separation and identification of them; practice in equation writing and the solution of problems. Four lectures or recitations and one 3-hour laboratory period each week. I, (5) and II, (5). Three lectures or recitations and two 3-hour laboratory periods each week. III, (5).
146. *Quantitative Analysis*. Theories and technic of gravimetric and volumetric analysis. Whenever possible the methods of the U.S.P. are used to illustrate their application, and pharmaceutical or medicinal products are used for practical examinations. Four lectures or recitations and two 3-hour laboratory periods each week. I, (6). Prerequisite: Chemistry 145 and Mathematics 142.
- 147, 148. *Organic Chemistry*. Nomenclature, occurrence, general methods of preparation, type reactions, and special reactions of acyclic, alicyclic, and aromatic hydrocarbons; their oxygen, halogen, nitrogen, and sulfur derivatives; proteins, carbohydrates; the simpler oxygen, nitrogen, and

- sulfur heterocyclics. Four lectures or recitations and two 3-hour laboratory periods each week. II, (6) and III, (6). Must be taken in sequence. Prerequisite: Chemistry 145 and Mathematics 142.
240. *Physical Chemistry*. An introductory course outlining the scope of the field and the relationships and applications to other fields of science. Four lectures or recitations and one 3-hour laboratory period each week. I, (5). Prerequisite: Chemistry 146, 148, and Physics 152.
244. *Drug Assaying*. Principles and methods of drug standardization applied to substances included in the U.S.P. Preparation and standardization of volumetric solutions; assays of alkaloid-bearing drugs, essential oils, aldehydes and phenol; determination of alcohol in pharmaceutical preparations; acid, saponification, and iodine values of fats; refractive index and specific rotation. Two lectures or recitations and two 3-hour laboratory periods each week. II, (4). Prerequisite: Chemistry 146 and 148.
245. *Chemistry of Natural Products*. A study of the occurrence, origin, biological significance, nomenclature, physical and chemical properties, methods of isolation and pharmaceutical uses of important natural substances such as sugars, sugar alcohols, polyhydroxy acids, gums, mucilages, pectins, glycosides, fats, waxes, sterols, hormones, vitamins,



Organic Chemistry Laboratory

- enzymes, essential oils and resins. I, (4). May be elected in senior year only. Prerequisite: Chemistry 148.
- 331, 332. *Biological Chemistry*. Course material equivalent to Biological Chemistry 301 in the College of Medicine. II, (5) and III, (5). Must be taken in sequence. Prerequisite: Chemistry 146 and 148.
340. *Physical Chemistry*. (Second course.) A study of theoretical and applied electrochemistry and the chemistry of colloids. Four lectures or conferences and one 3-hour laboratory period each week. II, (5). May be elected in senior year only. Prerequisite: Chemistry 240.
342. *Chemistry of Synthetic Drugs*. A study of modern synthetic drugs with regard to their nomenclature, methods of synthesis, relation to other drugs having similar therapeutic, physical, and chemical properties. Four lectures each week. I, (4). Prerequisite: Chemistry 148.
343. *Chemical Toxicology*. A course concerned with the common sources, chemistry of the physiological action, methods of isolation, and identification of toxic agents commonly encountered as industrial hazards and as the cause of accidental or purposeful poisoning. Two lectures and three 3-hour laboratory periods each week. III, (5). May be elected in senior year only. Prerequisite: Chemistry 148 and concurrent registration in Pharmacology.
346. *Synthesis of Drugs*. Continuation of the study of organic chemistry and the applications of the type reactions to the manufacture of organic medicinal chemicals and their intermediates. Barbitol, cinchophen, acetophenetidin, phenolphthalein, tryparsamide, hexylresorcinol, guaiacol, methylene blue, or others may be selected in consultation with the instructor. Reference to the original work on the substance elected is encouraged. Two lectures or recitations and three 3-hour laboratory periods each week. I, (5). May be elected in senior year only. Prerequisite: Chemistry 148.
349. *Pharmaceutical Assaying*. Chemical and physical methods of analysis of raw materials and dosage forms of medication involving the principles of sampling and quantitative separation of active compounds from inactive diluent or vehicle or from other active components. Two lectures or conferences and three 3-hour laboratory periods each week. II or III, (5). May be elected in senior year only. Prerequisite: Chemistry 244.
350. *Instrumental Analysis*. The principles, methods, and techniques of analytical chemistry using modern electrical and electronic instruments. Three lectures and two 3-hour laboratory periods each week. III, (5). May be elected in senior year only. Prerequisite: Chemistry 146, 148, 240, and Physics 152.

(See Graduate College catalog for courses offered to graduate students.)

ENGLISH

120, 121, 122. *English Composition*. Practice in writing, reading, note-taking, and organizing material related to the work in other courses. Three class periods each week. I, (3); II, (3); and III, (3). A passing grade in English 120 is prerequisite to registration in English 121, etc.

ENTOMOLOGY

270. *Fundamentals of Insect Control*. A consideration of the Class Insecta with emphasis on the members of economic and public health importance. Insect characteristics are related to economic and public health factors and to standard procedures of control. Application of chemical insecticides and the position of the pharmacist in the distribution of insecticidal poisons will receive particular attention. Three lectures and one 3-hour laboratory period each week. III, (4). May be elected in senior year only.

LANGUAGES

German or French. During their senior year students may elect German or French in any college or university accredited by the University of Illinois, and may present not more than twelve quarter hours of either language for advanced credit in lieu of other electives, provided that approval of the Dean is secured.

MATHEMATICS

140, 141, 142. *Elementary Mathematical Analysis*. A three quarter course designed to provide background for required science courses and to serve as a terminal course in mathematics for pharmacy students. I, (3); II, (3); and III, (3). A passing grade in Mathematics 140 is prerequisite to registration in Mathematics 141, etc.

ORIENTATION

160. *Orientation*. A course designed to aid the new student in making a satisfactory adjustment to college. Some suggestions are given for developing proper study habits. The curriculum, the system of grades, opportunities in pharmacy, and other related matters are discussed. Also included is an introduction to factors influencing the maintenance of personal health. One lecture each week. I, (0).

PHARMACOGNOSY

290, 291, 292. *Principles of Pharmacognosy*. A lecture, laboratory, and field study of the fundamental botany and pharmacognosy of the principal drugs of vegetable and animal origin. Related products of economic importance bearing upon the health of man and animal will be considered. Two lectures and two 3-hour laboratory periods each week. I, (4); II, (4); and III, (4).

301. *Plant Anatomy*. A microscopic study of the structure of vascular plants with particular attention to the development and evaluation of the vascular systems in all parts of the plant. Two lectures and three 3-hour laboratory periods each week. II, (5). May be elected in senior year only. Prerequisite: Pharmacognosy 292.
302. *Plant Physiology*. A study of life processes in plants, with particular attention to the cell as the fundamental functional unit. The basic principles of plant metabolism will be emphasized in relation to essential elements, energy relationship, and other environmental factors. Three lectures or conferences and two 3-hour laboratory periods each week. III, (5). May be elected in senior year only. Prerequisite: Pharmacognosy 301.
310. *Crystallography*. A study of basic crystal morphology, the principles of optical crystallography, and an introduction to the practical application of these studies. Two lectures and one 3-hour laboratory period each week. II, (3). May be elected in senior year only.
311. *Chemical Microscopy*. The application of the principles of crystallography and of microchemistry to the identification of organic and inorganic chemicals. Special attention will be given to alkaloids, glycosides, and other materials of biological and pharmaceutical interest. One lecture and two 3-hour laboratory periods each week. III, (3). May be elected in senior year only.

(See Graduate College catalog for courses offered to graduate students.)

PHARMACOLOGY

262. *Pharmacology*. A consideration of the factors underlying the application of pharmacologic principles and agents to therapeutic problems. Lecture-discussions will be pointed to an understanding of the problems involved in the development and standardization of drug agents, of the basic tissue responses to drug action and drug injury, and of the fundamental sites of drug action. Four lectures each week. I, (4). Prerequisite: Physiology 261, Chemistry 332, Bacteriology 280, and Pharmacognosy 292.
263. *Pharmacology*. A systematic consideration of the pharmacologic action and therapeutic implications of the principal drug agents, and the role of pharmacology in establishing rational principles of therapy. Four lectures and one 2-hour demonstration period each week. II, (4). Prerequisite: Pharmacology 262.
264. *Pharmacology*. An extension of the application of pharmacologic principles in the fields of chemotherapy, antibiotic drugs, and toxicology. Three lectures and one 3-hour laboratory period each week. III, (4). Prerequisite: Pharmacology 263.

PHARMACY

100. *Introductory Pharmacy*. An orientation course covering the scope, historical development, and literature of pharmacy. Two lectures or recitations each week. I, (2).
101. *Pharmaceutical Weights and Measures*. Nomenclature and definitions of the systems of weights and measures used in pharmacy, relationships of the various systems, and the calculations involved. Two lectures or recitations each week. II, (2). Prerequisite: Pharmacy 100.
102. *Pharmaceutical Processes*. A study of pharmaceutical processes and manipulations, definitions, and nomenclature. Laboratory work consists of experiments to illustrate the important pharmaceutical technics. Two lectures or recitations and one 2-hour laboratory period each week. III, (3). Prerequisite: Pharmacy 101.
103. *Galenical Pharmacy I*. A discussion of official and non-official galenical pharmaceuticals: aromatic waters, solutions, syrups, elixirs, and related types of preparations. The laboratory work includes manufacture of representative examples of each type. Two lectures and two 2-hour laboratory periods each week. I, (4). Prerequisite: Pharmacy 102.
104. *Galenical Pharmacy II*. Lectures consist of discussion of official and non-official galenical pharmaceuticals of the following classes: colloids, glycerites, liniments, oleates, emulsions, infusions, decoctions, tinctures, fluidextracts, resins and extracts, powders, triturations, and



Junior-Senior Dispensing Laboratory

effervescent salts. Laboratory work follows lectures closely. Two lectures and two 2-hour laboratory periods each week. II, (4). Prerequisite: Pharmacy 103.

105. *Galenical Pharmacy III*. Discussion of official and non-official galenical pharmaceuticals of the following classes: ointments, pastes, creams, cerates, cataplasms, suppositories, capsules, pills, troches, tablets, etc. Laboratory work consists of the manufacture of selected examples of these classes of preparations. Two lectures and two 2-hour laboratory periods each week. III, (4). Prerequisite: Pharmacy 104.
200. *Dispensing of Inorganic Materials*. Consideration of the pharmaceutical, medical, and technical uses of official inorganic materials, including reactions giving incompatibilities in prescription compounding. Laboratory work consists of selected experiments demonstrating principles discussed in the lectures. Two lectures and one 3-hour laboratory period each week. I, (3). Prerequisite: Pharmacy 105 and Chemistry 146.
201. *Dispensing of Organic Materials*. Consideration of the pharmaceutical, medical, and technical usage of official organic materials, including reactions giving incompatibilities in prescription compounding. Laboratory work consists of selected experiments demonstrating principles discussed in the lectures. Two lectures and one 3-hour laboratory period each week. II, (3). Prerequisite: Pharmacy 200.
202. *Dispensing Technics*. Lectures and laboratory work in technics of dispensing prescriptions, nomenclature, reading of difficult sample prescriptions, and basic incompatibility problems. Two lectures and one 3-hour laboratory period each week. III, (3). Prerequisite: Pharmacy 201.
203. *Advanced Dispensing I*. Discussion of principles involved in complex pharmaceutical preparations and development of dispensing technics applied to current products. Three lectures each week. I, (3). Prerequisite: Pharmacy 202.
204. *Advanced Dispensing II*. Discussion of the special topics of manufacturing pharmacy, clinical reagents, surgical supplies, dental and veterinary pharmacy, insecticides and rodenticides, and biological products as related to handling and dispensing problems. Three lectures each week. II, (3). Prerequisite: Pharmacy 203.
205. *Advanced Dispensing III*. Discussion and experimental laboratory development of problems of dispensing isotonic, buffered and collyria solutions, colloids, emulsions, and suspensions, with study of representative prescription specialties illustrating these types of preparations.

One lecture and two 2-hour laboratory periods each week. III, (3).
Prerequisite: Pharmacy 204.

206. *Hospital Pharmacy*. Fundamentals of hospital pharmacy management. One conference period and six hours in the hospital pharmacy each week. I, II, and III, (3). May be elected in senior year only.
207. *Manufacturing Processes*. Manufacture of pharmaceutical products on a semi-commercial scale, including analytical control of raw materials and finished preparations. One conference period and six hours of laboratory work each week. I, II, and III, (3). May be elected in senior year only.
208. *Parenteral and Special Solutions*. Preparation of solutions for intravenous and subcutaneous use. One conference period and six hours of laboratory work each week. I, II, and III, (3). May be elected in senior year only.
209. *Cosmetic Technology*. Composition, formulation, and manufacture of selected types of cosmetics such as face, tooth, talcum, and foot powders, cold and vanishing creams, hand lotions, rouges, lipsticks, bath salts, etc. Problems of perfuming, coloring, packaging, and preservation are considered. Representative types of these products are made during the laboratory periods. One lecture and six hours of laboratory each week. III, (3). May be elected in senior year only.

(See Graduate College catalog for courses offered to graduate students.)

PHARMACY ADMINISTRATION

124. *Principles of Economics*. Principles of production, supply, demand, value, price, distribution. Three lectures or recitations each week. III, (3).
Prerequisite: Sophomore standing.
220. *Principles of Accounting*. Fundamentals of accounting practice with special application to requirements of the retail pharmacy. Two lectures or recitations and one 3-hour laboratory period each week. I, (3). May be elected in senior year only.
221. *Principles of Marketing*. The policies and problems involved in the manufacturing, wholesaling, and retailing of drugstore merchandise. Four lectures or recitations each week. II, (4). May be elected in senior year only. Prerequisite: Pharmacy Administration 124 and 220.
230. *Pharmaceutical Jurisprudence*. Laws and regulations relating to the practice of pharmacy; principles of common law bearing upon the work and responsibilities of the pharmacist. Four lectures each week. III, (4). Prerequisite: Senior standing.

248. *Retail Pharmacy Management*. Discussion of the principles of store establishment, financing, departmentalization, buying, promotional activities, personnel selection, and operational problems of a retail pharmacy. Three lectures or recitations each week. III, (3). Prerequisite: Pharmacy Administration 221 and senior standing.

PHYSICAL EDUCATION

NOTE: In addition to the work offered in Physical Education, an extensive intramural athletic program for men is in operation. Intercollegiate athletics are limited to basketball at present. A small gymnasium, athletic field, and two tennis courts are open daily. Recreational swimming and handball are offered free to male students at the Duncan YMCA. Women students are offered use of the West Side YWCA and access to archery and table tennis equipment at the Illini Union Building.

Physical Education Practice. The measurement, development, and maintenance of physical fitness in accordance with each student's needs and abilities. Two hours each week. Elective at any time during the four years.

PHYSICS

- 150, 151, 152. *General Physics*. Mechanics, heat, sound, electricity, magnetism, light, and atomic physics. Two lectures, one recitation, and one 3-hour laboratory period each week. I, (4); II, (4); and III, (4). Prerequisite: Mathematics 142.

PHYSIOLOGY

260. *Human Physiology*. Physiology of blood, including spleen; heart and circulation; respiration; gastrointestinal tract and liver; kidney, skin, and water balance. Three lectures or recitations and one 3-hour laboratory period each week. I, (4). Prerequisite: Junior standing.
261. *Human Physiology*. Physiology of endocrines, heat regulation, nutrition, and metabolism; muscle and nerve; central nervous system and autonomic nervous system; and senses. Three lectures or recitations and one 3-hour laboratory period each week. II, (4). Prerequisite: Physiology 260.

PSYCHOLOGY

125. *Psychology*. Introduction to psychology. Introductory analysis and description of human behavior, with special reference to observation, learning, memory, thinking, emotional life, and personality development. Three lectures or recitations each week. II, (3). Prerequisite: Sophomore standing.

SOCIOLOGY

123. *Sociology*. A systematic study of the fundamental aspects of human society, personality, social organization, social change. Three lectures or recitations each week. I, (3). Prerequisite: Sophomore standing.

ZOOLOGY

161. *General Zoology*. An introductory course stressing the basic biologic principles of cytology, metabolism, embryology, anatomy, genetics, and evolution as illustrated by the major animal phyla. Two lectures and two 3-hour laboratory periods each week. I, (4).
162. *Mammalian Zoology*. The structure, as correlated with function, of man as a typical mammal, using the cat for laboratory dissection. Three lectures and two 3-hour laboratory periods each week. II, (5). Prerequisite: Zoology 161.
163. *Mammalian Histology*. A study of the fundamental microscopic anatomy of tissues, organs, and organ systems. Correlation between structure and function is emphasized. Two lectures and two 3-hour laboratory periods each week. III, (4). Prerequisite: Zoology 162.
304. *Genetics*. This course will consider the fundamental principles of biological inheritance, and the application of these in the study of plant and animal life. Three lectures and one 3-hour laboratory period each week. II, (4). May be elected in senior year only. Prerequisite: Zoology 162 or equivalent.

(See Graduate College catalog for courses offered to graduate students.)

A Prescription Case Used in the Hospital Pharmacy Dispensing Unit Located in the University of Illinois Research and Educational Hospitals



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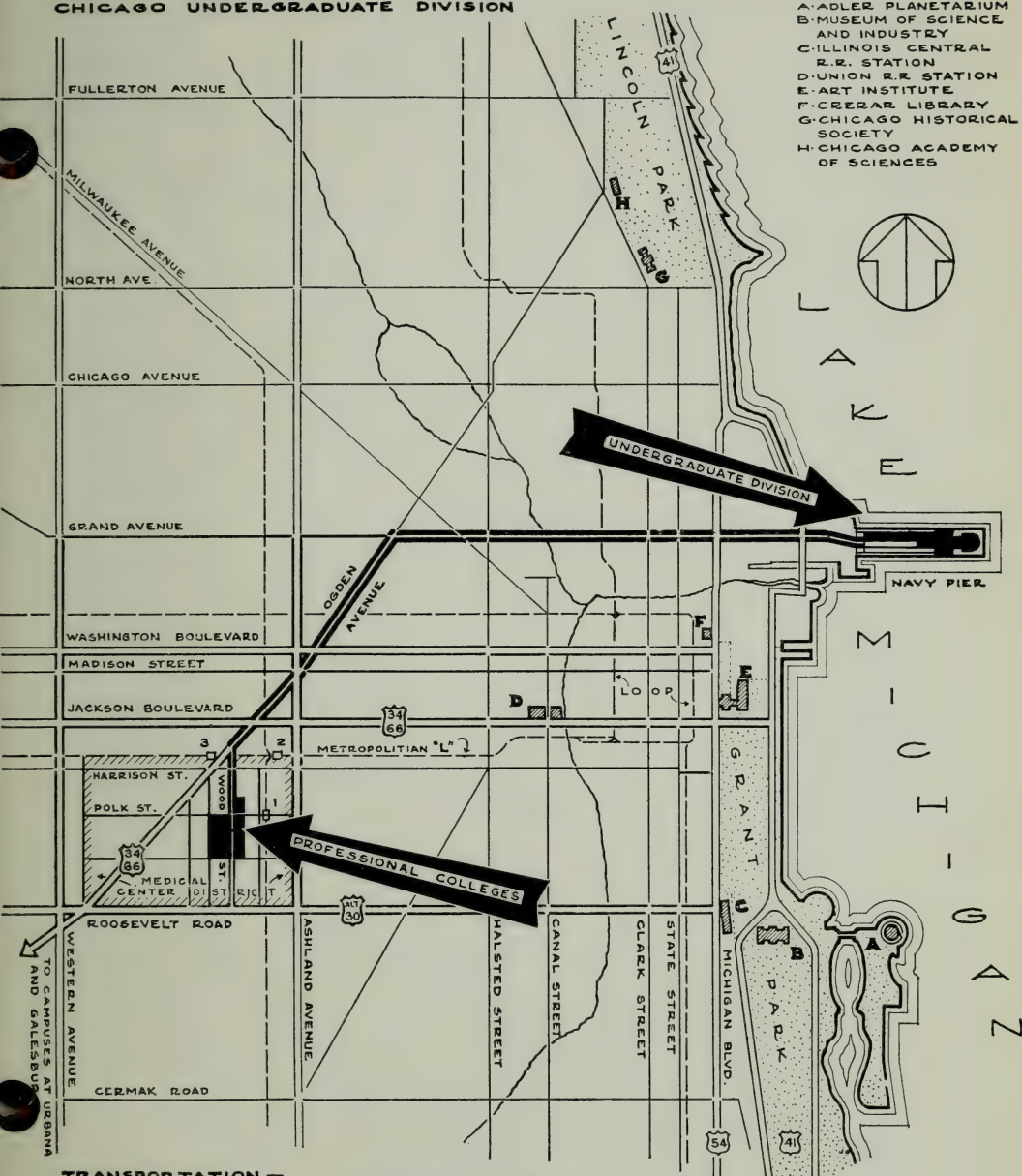
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UNIVERSITY OF ILLINOIS

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1957 — FALL QUARTER

September 30, Monday	First day of classes.
November 28, Thursday	Thanksgiving Day.
December 21, Saturday	Fall quarter ends.

1958 — WINTER QUARTER

January 6, Monday	First day of classes.
March 29, Saturday	Winter quarter ends.

1958 — SPRING QUARTER

April 7, Monday	First day of classes.
May 30, Friday	Memorial Day.
June 21, Saturday	Spring quarter ends.

1958 — SUMMER QUARTER

June 30, Monday	First six-week summer term begins.
July 4, Friday	Independence Day.
August 9, Saturday	First six-week summer term ends.
August 11, Monday	Second six-week summer term begins.
September 20, Saturday	Second six-week summer term ends.

1958 — FALL QUARTER

September 29, Monday	First day of classes.
November 27, Thursday	Thanksgiving Day.
December 20, Saturday	Fall quarter ends.

1959 — WINTER QUARTER

January 5, Monday	First day of classes.
March 21, Saturday	Winter quarter ends.

1959 — SPRING QUARTER

March 30, Monday	First day of classes.
May 29, Friday	Memorial Day holiday.
June 13, Saturday	Spring quarter ends.

1959 — SUMMER QUARTER

June 22, Monday	First six-week summer term begins.
July 3, Friday	Independence Day holiday.
August 1, Saturday	First six-week summer term ends.
August 3, Monday	Second six-week summer term begins.
September 12, Saturday	Second six-week summer term ends.

1959 — FALL QUARTER

September 28, Monday	First day of classes.
November 26, Thursday	Thanksgiving Day.
December 19, Saturday	Fall quarter ends.

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COLLEGE OF PHARMACY

LOCATION, HISTORY, AND ADMINISTRATION

LOCATION

The College of Pharmacy of the University of Illinois is located in the great medical center on the west side of Chicago. The work of the College of Pharmacy is centralized in the new East Unit of the Dentistry-Medicine-Pharmacy Building at 833 South Wood Street. The work of the Colleges of Dentistry and Medicine, the Graduate College, and the School of Nursing is centralized in the Dentistry-Medicine-Pharmacy Building which faces on Polk, Wood, and Wolcott Streets. The campus of the University of Illinois Chicago Professional Colleges, which is located about three miles from the Loop, or main business district of the city, can be reached conveniently by elevated train, bus, or automobile.

The University of Illinois Research and Educational Hospitals located at 840 South Wood Street and the Illinois Eye and Ear Infirmary located at 904 West Adams Street provide excellent facilities for the teaching of Hospital Pharmacy to both undergraduate and graduate students.

The Drug Plant Experiment Station, located at Lisle, Illinois, provides a unique opportunity for the development of drug plant research and the training of graduate students who are majoring in the field of Pharmacognosy. The facilities of the Station are augmented by the very extensive plant culture programs of the Morton Arboretum.

HISTORY

The College of Pharmacy was originally an independent proprietary institution before becoming affiliated with the University of Illinois. It is by far the oldest, having been organized as the Chicago College of Pharmacy on September 5, 1859, eight years before the University itself was incorporated. It was the third institution of its kind in the United States. Activities were suspended during the Civil War, and the College was not reopened until 1870. When its property was destroyed by the Chicago fire of 1871, the pharmacists of the world promptly came to the rescue, those of Great Britain in particular. They enabled the College to reopen again in 1872, with new equipment, including a library, much better than ever before. In 1896, it became the School of Pharmacy of the University of Illinois, and in 1932 its name was changed to the College of Pharmacy, when the curriculum leading to the degree of Bachelor of Science in Pharmacy was announced. In 1939-1940 the College of Pharmacy was moved from its former quarters, 715 South Wood Street, to the Dentistry-Medicine-Pharmacy Building at 808 South Wood Street.

Teaching and research facilities of the College were greatly expanded by the completion and occupancy of a new \$5,540,000 classroom and laboratory building prior to the opening of the fall quarter of 1954. The new six-story East Unit of the Dentistry-Medicine-Pharmacy Building at 833 South Wood Street now provides administrative and general offices for the College of Pharmacy, lecture halls, classrooms, manufacturing, research, teaching, and dispensing laboratories, storage space for both teaching and research materials, and space for 800 student lockers. With the added teaching facilities, the College of Pharmacy is planning the establishment of a postgraduate teaching program, which will enable the University to render state-wide services to the 4,200 retail drugstores and the 7,000 practicing pharmacists in Illinois.

ADMINISTRATION

Under the laws of the state of Illinois, the Board of Trustees of the University of Illinois is composed of eleven members, including the Governor and the Superintendent of Public Instruction who serve *ex officio*, nine members being elected by the people of the state for terms of six years.

Under the University Statutes adopted by the Board of Trustees, the affairs of the University are administered by the President, the Vice-President and Provost, the Vice-President in charge of the Chicago Professional Colleges, the Executive Dean of the Chicago Undergraduate Division, the Deans and Directors of the Colleges and Schools, and other administrative officers, most of whom are located on the main campus of

the University at Urbana. The Chicago Professional Colleges and Schools consist of the College of Dentistry, the College of Medicine, the College of Pharmacy, and the School of Nursing, each having its own Dean, and all being under the general supervision of the Vice-President in charge of the Chicago Professional Colleges.

Graduate work at the Chicago Professional Colleges is conducted by a division of the Graduate College under the supervision of an Associate Dean. The present work of the Graduate College is described in detail in a separate announcement.

A Senate is constituted at each Campus of the University and consists of the full professors, the deans of colleges, the directors of schools and institutes, and the heads and chairmen of departments.

Members of the faculty in each college cooperate with those in other colleges of the University, both in instruction and in research. Staff members of the basic science departments in the College of Medicine also give instruction for students of dentistry, pharmacy, nursing, and occupational therapy.

ACCREDITATION

The College of Pharmacy of the University of Illinois is fully accredited as a Class A College by the American Council on Pharmaceutical Education. The Council is the only accrediting agency for the profession of Pharmacy, and is an affiliate of the American Council on Education.

LIBRARY

The library contains a comprehensive collection of standard and modern works on medical, dental, and pharmaceutical subjects, with over 1,100 current periodicals and more than 100,000 books. It is used by professional men throughout the Chicago area, and its service to the University staff and students is supplemented by loan arrangements with other libraries.

RECREATIONAL FACILITIES

The social and recreational center for students, alumni, and faculty members is the Chicago Illini Union Building, 715 South Wood Street. Its facilities include a cafeteria, grill, soda fountain, browsing room, music room, gymnasium, meeting rooms, and game rooms. Intramural sports under a trained director are encouraged, and facilities and equipment are available for softball, touch football, horseshoes, tennis, archery, wrestling, fencing, badminton, basketball, handball, and ping pong. Through special arrangements, the swimming pools of the nearby YMCA and YWCA are available to students.



BIOLOGICAL SCIENCES LABORATORY
ZOOLOGY, COMPARATIVE ANATOMY, HISTOLOGY, ENTOMOLOGY, AND PHARMACOGNOSY

REQUIREMENTS FOR ADMISSION

Each applicant seeking admission to the College of Pharmacy must file application blanks with the Associate Dean of Admissions and Records, University of Illinois, 1853 West Polk Street, Chicago 12, Illinois. A certified transcript of high school credits must be sent by the principal directly to the Associate Dean of Admissions and Records. If an applicant has attended any college or university, each institution attended must be requested to forward an official transcript.

Since space limitations make it necessary to restrict the number to be enrolled, applications should be filed early. High school seniors should not wait until graduation to make application, but should do so immediately after completion of the first half of grade twelve. New classes enroll in the fall, usually in late September, and applications must be completed not later than May 31 of the year in which the applicant wishes to enroll. Only when the Admissions Committee for the College of Pharmacy deems it advisable are applications accepted after May 31.

Applications from Nonresidents. A nonresident of Illinois must rank in the upper one-half of his high school graduating class to be eligible for admission. The Admissions Committee is authorized to accept up to ten per cent of each entering first-year class from nonresident applicants.

However, only highly qualified nonresident students are considered for admission. Applicants for admission who come from foreign countries must make all arrangements in advance. They must furnish complete official credentials and evidence that they are able to meet in full the cost of attending the University. Certificates in a foreign language must be accompanied by certified translations.

Age. An applicant must be at least sixteen years of age. The Dean of the College may accept applications from students fifteen years of age who meet all other requirements for admission and who are to reside, while attending the University, with their parents or guardian, or with someone selected by them.

Selection of Applicants. Applicants who meet the minimum requirements for admission are notified to come to the College for admission tests and personal interviews. In selecting applicants the Admissions Committee takes into consideration each candidate's qualifications, including such factors as previous scholastic records, performance on admission tests, ratings from personal interviews, and recommendations received from teachers and employers. Applicants receive formal notification of the action of the Admissions Committee.

Renewing Applications. An applicant who has been accepted for admission but fails to enroll, and who wishes to enter in a subsequent year, must reapply for admission and must meet all the requirements in force at the time of the new application.

High School Requirements. In general, an applicant must be a graduate of an accredited secondary school. An applicant not meeting this requirement should contact the Associate Dean of Admissions and Records to determine the requirements for admission in his particular case.

Fifteen units of acceptable high school work are required and must include two majors (of three units each) and one minor (of two units), selected from the following five groups: English, foreign language, mathematics, science, and social studies. One of the majors must be English and at least a minor must be in mathematics, including algebra and plane geometry. A total of at least nine units must be from the five groups listed above. The six remaining units may be selected from any of the high school subjects which are accepted by an accredited school toward its diploma and which meet the standards for accrediting.

Fractional units of the value of less than one-half unit are not accepted. Not less than one unit of work is accepted in a foreign language, elementary algebra, plane geometry, physics, chemistry, or biology. Although

not specifically required, at least two units of science and two units of social studies are recommended for applicants to the College of Pharmacy.

High School Graduates in the Lowest Quarter. A graduate of an accredited high school who is a resident of Illinois, whose rank in scholarship is in the lowest quarter of his graduating class as determined at the end of the first half of grade twelve, and who meets the requirements stated, may make application subject to the following procedure. Such an applicant is required to take tests as prescribed by the Student Counseling Service and to receive in an interview an interpretation of the test scores and their educational and vocational significance. A reasonable effort is made to inform the parents of the chances of the applicant's success at the University. If such an applicant is accepted by the Admissions Committee and decides to enter, he makes this decision in writing to the Associate Dean of Admissions and Records not later than thirty days prior to the official registration date. Such a student, immediately upon registration, is placed under the special supervision of the Dean of the College. He may be required to carry a reduced program of study, or a program especially arranged to meet his needs.

Admission by Transfer. A person who has attended a college or university of recognized standing is considered for admission on presenting (1) a transcript of his college record showing honorable dismissal from the institution from which he comes and (2) an official statement of his preparatory school work. A person seeking transfer with more than forty semester hours of academic work from other colleges or universities must present a college average of at least 3.0 in terms of the grading system of the University of Illinois and must have a combined average of at least 3.0 for his last two semesters. An applicant who is otherwise qualified but whose average for his last semester is less than 3.0 may, with the approval of the Dean, be admitted only on probationary status. A person seeking transfer with more than forty semester hours of academic work with less than a 3.0 average is not admitted.

A resident of Illinois seeking transfer with forty semester hours or less of academic work whose college average is less than 3.0 but above 2.5 may, with the approval of the Dean, be admitted only on probationary status. A nonresident of Illinois seeking transfer with forty semester hours or less of academic work, whose college average is less than 3.0, is not admitted.

A person on probation at or dropped from another institution for disciplinary reasons may enter only on the approval of the Dean of the College and with the approval of the Senate Committee on Discipline, as well as the Admissions Committee.

Deposit. Each applicant who is assigned a place in any class in the College of Pharmacy is required to make a deposit of \$15.00 within two weeks of the date of notification that he will be admitted. This deposit is applied on fees assessed against him at the time of registration. Failure to pay this deposit within the specified time subjects the applicant to forfeiture of his place. No deposit is returned unless the applicant notifies the Associate Dean of Admissions and Records at least thirty days before the time for registration that he will not be able to enter.

Physical Requirements. Evidence of satisfactory health is desirable before enrollment. A certificate is requested from the Health Service of the last institution attended, or from a physician, attesting to the applicant's general health, the possible need for glasses or correction of other defects, and to insure that immunizations for smallpox, tetanus, typhoid, diphtheria, and poliomyelitis are up to date.

Each student accepted for admission is required to report to the University Health Service for a medical examination, chest X-ray, Kahn blood test, blood counts, urinalysis, and immunizations. If this is done beforehand by a private physician, and the results in writing are brought in, much time can be saved. Appointments for the physical examination by the Health Service can be made by telephoning MONroe 6-3900, extension 8181. These appointments are usually made for the month preceding registration. Enrollment in the College of Pharmacy is not continued without approval from the Health Service.

REQUIREMENTS FOR GRADUATION

A candidate for the degree of Bachelor of Science in Pharmacy must meet the following general requirements: (1) show evidence of good moral character, (2) pay all indebtedness to the University, (3) obtain passing grades in all courses of the required curriculum, and (4) have completed the four-year pharmacy curriculum of 202 quarter hours with a minimum average of C, equivalent to a minimum grade-point average of 3.0, including grades in courses transferred from other institutions. He must also have an average of not less than 3.0 in work done at the University of Illinois. All grades in those courses which count toward graduation are used in computing the graduation average. Where a course has been repeated, both the original and subsequent grades are included in the average if the course is to be counted toward graduation. Either the first three years of work, or the last year, must be done in the College of Pharmacy.

FIVE-YEAR REQUIREMENT IN 1960

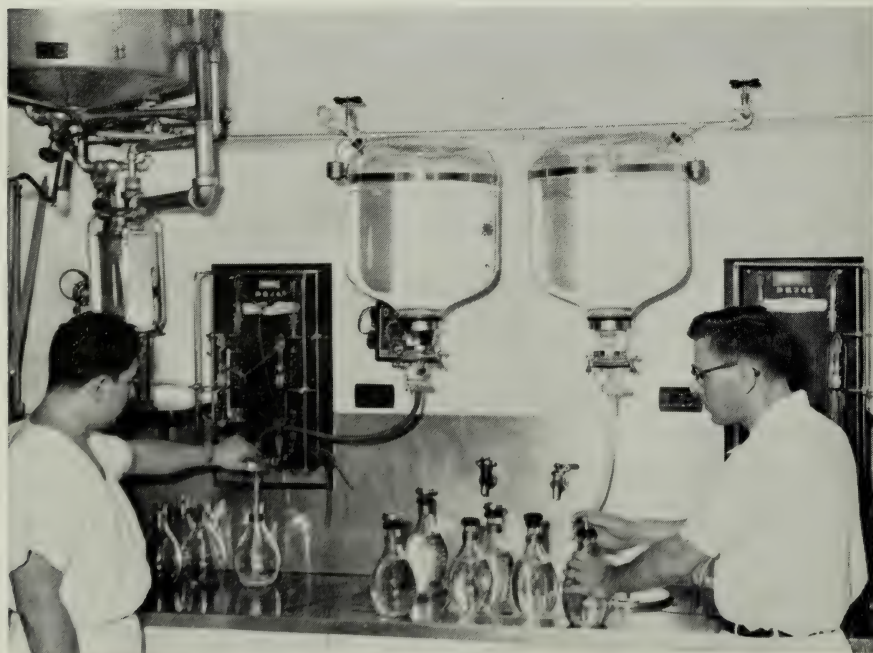
According to a decision of the American Council on Pharmaceutical Education, no student beginning a pharmacy or prepharmacy curriculum in or after April, 1960, will be permitted to enroll in an academic program of less than five years. This decision is supported and is in harmony with actions previously taken by the National Association of Boards of Pharmacy and the American Association of Colleges of Pharmacy relative to the establishment of a five-year program of pharmaceutical education and the completion of such a program as the minimum requirement for graduation. No College of Pharmacy will be eligible for accreditation on and after July 1, 1960, unless it provides as a minimum an over-all five-year program. The program to be offered by the University of Illinois College of Pharmacy under this provision will be announced in a later bulletin.

STATE REGISTRATION OF PHARMACISTS

The Pharmacy Practice Act of the state of Illinois in effect January 1, 1956, provides that:

"Any person shall be entitled to registration as a registered pharmacist who is not less than twenty-one (21) years of age, of good moral char-

PARENTERAL SOLUTION MANUFACTURING LABORATORY



acter and temperate habits, a graduate of an accredited high school or whose education is equivalent thereto in the discretion of the Board, a graduate of a course of at least four academic years with a pharmaceutical degree from a school or college of pharmacy or department of pharmacy of a university recognized and approved by the Department of Registration and Education, and who has had at least one (1) year of pharmacy apprenticeship experience from and after the successful completion of at least one (1) academic year of attendance in a school or college of pharmacy or department of pharmacy of a university recognized and approved by the Department, in assisting in the practice of pharmacy under a registered pharmacist in a drug store or pharmacy in this State or in any other state, or in a drug store or pharmacy in a hospital, or similar institution conducted by the Army, Navy, Air Corps, Marine Corps, Coast Guard, Veteran's Administration, or Public Health Service of the United States, or by the State Militia or National Guard of any state thereof, where the practice of pharmacy, including the compounding of prescriptions, is carried on, and who shall pass a satisfactory examination prescribed by the Board of Pharmacy.

"No person shall be registered as a registered pharmacist who is not a citizen of the United States, or who has not made a declaration of intention to become a citizen, or who, having made such declaration of intention, has not filed a petition for naturalization within thirty days after becoming eligible to do so, and no certificate of registration as a registered pharmacist shall be continued or renewed for any person, who having made such declaration of intention has not filed a petition for naturalization within thirty days after becoming eligible to do so.

"The Department of Registration and Education may in its discretion register as a registered pharmacist, without examination, any person who is duly registered as a pharmacist by examination in some other state, provided that the said person shall produce evidence satisfactory to the Board of having had the required secondary and professional education and training, and is possessed of good moral character and temperate habits, as required of applicants for registration as pharmacists under the provisions of this Act; provided, that persons of good moral character and temperate habits who have become registered as pharmacists by examination in other states prior to the effective date of this Act, shall be required to satisfy only the requirements for registration as pharmacists which existed in this State at the time they became registered as pharmacists in such other states, and provided also, that the state in which each said person is registered shall, under like conditions, grant reciprocal registration as a registered pharmacist, without examination, to a registered pharmacist duly registered as such by examination in this State.

The person who shall be registered as a registered pharmacist, by reciprocity, under the provisions of this subsection, shall have the authority to practice the profession of pharmacy in this State, the same as a registered pharmacist who shall be registered, by examination, under the provisions of this Act.”

The Pharmacy Practice Act provides further that:

“Any person shall be entitled to registration as a registered pharmacy apprentice who is of the age of sixteen (16) years or over, of good moral character and temperate habits, employed in a drug store or pharmacy in this State under the personal supervision of a registered pharmacist in good standing in this State, a graduate from an accredited high school or comparable school or educational institution recognized by the Department, and who shall have filed a written application therefor, on a form to be prescribed and furnished by the Department for that purpose, accompanied by a fee of Two (2) dollars. . . . The pharmacy apprenticeship experience required of any applicant for registration as a registered pharmacist . . . shall be computed from and after the successful completion of at least one (1) academic year of attendance in a school or college of pharmacy or department of pharmacy of a university recognized and approved by the Department.

“The year of the required pharmacy apprenticeship experience under this Act shall consist predominantly in assisting registered pharmacists under their direct personal supervision in the practice of pharmacy, including, but not limited to, the compounding and dispensing of prescriptions, the preparing of pharmaceutical preparations, the keeping of records and the making of reports required under local, state and federal laws relating to the operation of a pharmacy and to the practice of pharmacy, and such other duties as may be recommended by the Board of Pharmacy and approved by the Department of Registration and Education.”

Questions relative to the apprenticeship training requirements and other qualifications for examination and licensure as a pharmacist should be directed to the Department of Registration and Education, State of Illinois, Springfield, Illinois.

STUDENT HOUSING

Excellent living accommodations in the new Residence Hall are available to all unmarried students in the Chicago Professional Colleges. This residence unit is conveniently located to all campus facilities and is provided with the finest furnishings and equipment.

The Residence Hall has 13 single rooms and 196 double rooms. The student rooms are unusually large. Double rooms are 11 feet 7½ inches

by 16 feet 10 inches and single rooms are 8 feet 10 inches and 8 feet 4 inches by 16 feet 10 inches. Double rooms are equipped with two single beds and mattresses, bedding, two chests with mirrors, two desks, two study chairs, a lounge chair, study lamps, and waste baskets. Single rooms are equipped proportionately. Each resident has an individual closet 3 feet by 3 feet.

Each floor of the building has a central washroom and shower room. Trunk storage space is available on the first floor of the building. The laundry room is equipped with automatic washers and driers. The building has two automatic elevators.

Residence hall cost includes room and board (twenty meals per week) and is payable in full or quarterly in advance. The cost includes the services of housemen for general maintenance work and maids who make

NEW STUDENT RESIDENCE HALL



beds and clean the rooms five days each week. Single rooms are \$875.00 per student for three quarters and double rooms \$820.00 per student for three quarters.

For additional information about housing, write to the Director of Housing, 818 South Wolcott Avenue, Chicago 12.

FEES AND EXPENSES

A schedule of fees for regular full-time students in the College of Pharmacy is listed below. One-third of each year's fees is payable on registration for each quarter. The Board of Trustees of the University reserves the right to change the fees at any time through publication in the annual announcements.

	Tuition	Building and Laboratory Service Fee	Union Building Service Charge	Total Per Year
FIRST YEAR				
Illinois	\$150.00	\$ 66.00	\$10.50	\$226.50
Non-Illinois	501.00	84.00	10.50	595.50
SECOND YEAR				
Illinois	150.00	96.00	10.50	256.50
Non-Illinois	501.00	114.00	10.50	625.50
THIRD YEAR				
Illinois	150.00	96.00	10.50	256.50
Non-Illinois	501.00	114.00	10.50	625.50
FOURTH YEAR				
Illinois	150.00	102.00	10.50	262.50
Non-Illinois	501.00	120.00	10.50	631.50

Students registered for twelve credit hours or less pay tuition fees at the rate of \$4.50 a credit hour if residents of Illinois, or \$15.00 a credit hour if nonresidents. For thirteen credit hours or more, the full tuition fees are charged. Students taking twelve quarter hours or less also pay \$3.00 per quarter hour of credit as a building and laboratory service fee if residents of Illinois, or \$3.50 per quarter hour of credit if nonresidents. In no case is a student assessed a greater fee than is paid by full-time students. All part-time students pay the full Union Building Service Charge.

Late Registration Fee. Former students who register after the regular registration days in any quarter pay a late registration fee of \$5.00.

Special Examination Fee. For any special examination given in a course which has been failed, the fee is \$10.00.

Change of Program Fee. A fee of \$1.00 is charged for every change slip issued at the request of the student.

Transcript Fee. Each student who has paid all his University fees is

entitled to receive, without charge, one transcript of his record. For each additional transcript the fee is \$1.00.

Listener's Fee. For each credit hour, persons not connected with the University who are permitted to attend classes as listeners pay \$10.00 if residents of Illinois, \$40.00 if nonresidents.

Fees for Unclassified Students. Fees charged unclassified students are based on the amount of work taken.

Service Charge for Deferred Fees. In cases of necessity, students may arrange for deferment of fees by calling at the Business Office, 128 Dentistry-Medicine-Pharmacy Building. A service charge of ten per cent of the amount of fees deferred, not to exceed \$2.00 a quarter, is charged for the privilege of deferring fees, and this charge must be paid on the day of registration. If deferred fees are paid in full within ten days after registration, the service charge is refunded, except that a minimum service charge of \$1.00 is retained by the University in all cases. The service charge, not less than one-third of the current quarter's fees, and all fees and charges from previous terms must be paid on the day of registration. Failure to meet payments of fees within the time limits cancels at once the privilege of attending classes. Registration is not completed until fees are paid in full, and no credit is recorded for class work completed unless all fees and other charges have been paid in full. Deferred payment of fees delays the completion of registration, but extends the privilege of attending classes pending payment of fees in full as described above.

Refunds. If a student withdraws within ten days after the beginning of instruction, his total fees (except the \$15.00 deposit) are refunded. After ten days and before the expiration of one month, a refund of two-thirds of his total fees is made. After one month and before the expiration of two months, a refund of one-third of these fees is made. After the expiration of two months, no part of the fees is refunded.

EXPENSES

From \$110.00 to \$150.00 a month may be regarded as adequate for the ordinary living expenses of a student in Chicago, exclusive of books, clothing, railroad fare, and miscellaneous needs. The expense for books and materials averages approximately \$75.00 a year.

SCHOLARSHIPS, HONORS, AND PRIZES

SCHOLARSHIPS AWARDED BY COUNTY COMPETITIVE EXAMINATION

County Scholarships. One scholarship is awarded in each county to the high school graduate who passes with the highest average a competitive examination given on the last Saturday in April under the supervi-

sion of the County Superintendent of Schools. The grade must be at least 70 per cent. In Cook County sixty-six additional scholarships are awarded to the next sixty-six highest ranking candidates in this examination. All candidates write an examination in English composition and rhetoric and in two of the following fields: mathematics, social studies, natural science. A candidate who has had college work is not eligible.

The Board of Trustees has authorized winners in the above examinations to defer the beginning date of the scholarship in cases where the recipient will not graduate from high school until February next following the April examination. Such candidates must register in the University of Illinois in the second semester of the school year immediately following the examination.

A county scholarship exempts the holder from the tuition fees in any course in the University for four years.

Scholarships for Children of Veterans of World War I, World War II, and the Korean Conflict. By act of the legislature (1947), one scholarship is available in each county each year for a child of a veteran of World War I, one each year for a child of a veteran of World War II, and one each year for a child of a veteran of the Korean conflict. This scholarship is awarded to the candidate who receives the highest grade in the competitive examination held on the last Saturday in April each year as described in the paragraph on the County Scholarships, except that preference is given to children of veterans who are deceased or disabled. It exempts the holder from the tuition fees for four years in any department of the University. Proof of service of the war veteran and of his relationship to the candidate is required.

SCHOLARSHIPS AWARDED FOR MILITARY SERVICE

Military Scholarships. Any person who served in the Army, Navy, Air Force, or Marine Corps of the United States during World War I, or sometime between September 16, 1940, and the termination of the National Emergency proclaimed December 16, 1950, and who has been honorably discharged, is entitled to a scholarship in the University of Illinois if he possesses the necessary entrance requirements and if he was a resident of the state of Illinois or a student in the University of Illinois at the time of enlistment. This scholarship exempts the holder from the tuition fees in any course in the University for four years.

"A scholarship shall not be awarded hereunder, or, if awarded, the benefits shall not be extended, to any person in respect to any period within the scholarship term during which he is receiving financial assistance for educational purposes from the federal government."

SCHOLARSHIPS AWARDED ON NOMINATION OF MEMBERS OF THE GENERAL ASSEMBLY

Each member of the General Assembly may nominate annually one student from his district for a scholarship in the University. Provision is made for substitute appointments in case the original nominee fails to qualify or discontinues his course. This scholarship exempts the holder from the payment of the tuition fees in any course in the University for a period of four years.

SCHOLARSHIPS AWARDED BY THE ILLINOIS STATE SCHOLARSHIP COMMISSION

The number of first-year scholarships available each year are two for residents of each senatorial district, two for residents of each representative district, and such additional number as appropriated funds permit. To be eligible for a first-year scholarship, each applicant (1) must be a resident of Illinois; (2) must be of good moral character; (3) must have successfully completed the program of instruction at an approved high school, or currently be enrolled at such a school and engaged in a program which will be completed by the end of the academic year; and in either event his scholarship must place him in the upper half of his graduating class; (4) must not have engaged in any university, college, normal school, junior college, or other advanced training subsequent to his graduation from high school; (5) must be an individual who, because of financial considerations, would be deterred from beginning or completing his education; and (6) must have superior capacity to profit by a higher education. In each fiscal year, competitive examinations are conducted among those eligible for first-year scholarships. Each scholarship is renewable annually for a total of three academic years. The amount of each first-year and each renewal scholarship shall be the smallest of the following amounts: (1) \$600.00; or (2) the amount which equals the annual tuition and other necessary fees required by the institution at which the scholarship is to be used; or (3) such amount as the Commission finds to be appropriate in view of the applicant's financial resources. Scholarships may be used in any qualified institution of higher learning. Further information is available in high school offices.

SCHOLARSHIPS AWARDED BY THE UNIVERSITY COMMITTEE ON SPECIAL UNDERGRADUATE SCHOLARSHIPS

There are several scholarships which are good in any college within the University and which are awarded by the University Committee on Special Undergraduate Scholarships. Application should be made to the Dean of Admissions and Records, University of Illinois, Urbana, Illinois, as soon as possible after March 1 of each year.

SCHOLARSHIPS AWARDED BY THE COLLEGE OF PHARMACY COMMITTEE ON AWARDS AND SCHOLARSHIPS

This Committee has at its disposal a number of scholarships which may be awarded on the basis of need. Applications should be addressed to the Dean of the College of Pharmacy.

HONORS

Graduation with Honors. A student who complies with the requirements for graduation, and who attains in all work presented for the degree the average grade specified below, may be recommended by the University Senate for the honors stated: for an average grade of not less than 4.35, graduation with honors; for an average grade of not less than 4.75, graduation with high honors. The honors awarded are noted on the diploma and in the Commencement program.

Honors Day Convocation. Under the supervision of the College of Pharmacy Committee on Awards and Scholarships, an Honors Day Convocation is held annually. Certificates indicating attainment of honors are awarded to members of all four classes who have maintained an average grade of not less than 4.35, and certificates indicating attainment of high honors are awarded to members of all four classes who have maintained an average grade of not less than 4.75. These averages are determined at the beginning of the third quarter of each year. In addition, the prizes indicated in the following section are awarded at this convocation.

PRIZES

Borden Scholarship Award. The Borden Company, through the Borden Company Foundation, Inc., has established in the College of Pharmacy the Borden Scholarship Award. This award consists of a \$300.00 scholarship, which is given annually to the junior student who has the highest scholastic average upon entering the third quarter of the junior year.

Delta Kappa Sigma Award. The Alpha Chapter of Delta Kappa Sigma, professional pharmacy fraternity, sponsors an annual award consisting of a \$25.00 United States Savings Bond. This prize is given to a senior student who best exhibits the following attributes: service, leadership, and character. The recipient must also have an average grade of 3.75 in all of the required courses upon entering the third quarter of the senior year.

Elich Prize. Mrs. Herman Elich, in memory of Mr. Herman Elich '96, who as an alumnus of the College of Pharmacy originated the Elich Prize, continues to offer annually a prize of \$25.00 to the senior student with the highest scholastic average in pharmacognosy.

Ethel J. Heath Scholarship Key. Gamma Chapter of Lambda Kappa Sigma offers annually an honor key to the graduating sorority member having the highest scholastic average upon entering the third quarter of the senior year. The recipient must have a grade average of at least 4.0 to qualify for the award.

Illinois Pharmaceutical Association Women's Auxiliary Award. The Women's Auxiliary of the Illinois Pharmaceutical Association offers annually an award of \$50.00 to the outstanding graduating woman student of the College of Pharmacy. This award is based upon character, leadership, and scholastic achievement in pharmacy.

Illinois Pharmaceutical Travelers Association Prize. The Illinois Pharmaceutical Travelers Association sponsors an annual award of \$100.00 for a deserving graduating male student who has sustained a grade-point average of 4.0 or better in pharmacy upon entering the third quarter of the senior year. The basis for choosing the recipient is character, leadership, and scholastic achievement.

Rho Chi Prize. Phi Chapter of Rho Chi, honorary pharmaceutical society, awards annually an embossed copy of the United States Dispensatory as a prize to the sophomore student who has attained the highest scholastic average upon entering the third quarter of the sophomore year.

Van Schaack Prize. By the will of Cornelius P. Van Schaack, the College of Pharmacy received in 1937 the sum of \$1,000.00 to be held in trust by the University. The annual income from this bequest is used for the purchase of a gold medal, known as the C. P. Van Schaack Award, which is presented to the senior student who has the highest scholastic average in chemistry upon entering the third quarter of the senior year. From time to time other prizes are made available and are also awarded at the annual Honors Day Convocation.

LOAN FUNDS

Several loan funds have been established for the benefit of worthy students who have satisfactorily completed at least one year of work in the University and are in need of financial aid in order to finish their courses. Information concerning these funds and the regulations governing loans may be obtained from the office of the Dean of the College.

Ebert Loan Fund. In 1907, following the death of Mr. Albert E. Ebert, who had taken an active part in the development of the College of Pharmacy, the Alumni Association of the College established a fund in mem-

ory of Mr. Ebert. Later contributions were made by the Women's Organization of the Chicago Retail Druggists' Association to establish a loan fund. In 1931 the funds were combined into one known as the Albert E. Ebert Loan Fund. The Class of 1932 also contributed to this fund. Loans are made to deserving students.

Goldenrod Ice Cream Company Loan Fund. Established in 1943, through a gift from the Goldenrod Ice Cream Company of Chicago, this fund provides for loans to students.

Goldstine Emergency Loan Fund. This fund for emergency loans to students was established by the Board of Trustees in 1933. The name was changed in 1943 when the fund was increased by a gift from Mr. Harry Goldstine.

ORGANIZATIONS

ALUMNI ASSOCIATION OF THE COLLEGE OF PHARMACY

President: MILTON G. CHRISTY '50, 908 Mary Street, Pekin, Illinois.

Vice-President: FRANK R. KOZLICKI '39, 5053 North Nashville Avenue, Chicago 31, Illinois.

Treasurer: GEORGE L. WEBSTER '22, 1000 Forest Avenue, Wilmette, Illinois.

Secretary: SAMUEL SHKOLNIK '25, 111 West Washington Street, Chicago 2, Illinois.

Trustees (in addition to the above officers):

HERBERT A. BERRY '28, 31 Center Street, Hinsdale, Illinois.

RALPH CARPENTER '30, 150 South Michigan Avenue, Villa Park, Illinois.

JOSEPH N. PANDOLFO '31, 3715 West 66th Street, Chicago 29, Illinois.

GEORGE PARKS '22, 206 South Main Street, Anna, Illinois.

RALPH TASH '42, 6715 Sauganash, Lincolnwood, Illinois.

Representative (on General Alumni Board):

HARRY E. LEVIN '23, 711 Washington Boulevard, Oak Park, Illinois.

STUDENT BRANCH OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

The Student Branch of the American Pharmaceutical Association is the only organization which offers professional membership to all students in the College of Pharmacy. The organization maintains an active professional program, and cooperates with the Chicago Branch of the A. Ph. A. in the development of the annual banquet of that organization.



MANUFACTURING PHARMACY LABORATORIES

Approximately seventy per cent of the students enrolled in the College of Pharmacy are active members of the association. Seniors in good standing in the Student Branch at the time of their graduation are accorded full membership in the American Pharmaceutical Association until January 1 of the succeeding year.

RHO CHI

Phi Chapter of Rho Chi, national pharmaceutical honor society, organized to promote the advancement of the pharmaceutical sciences, is located at the College of Pharmacy. Students who have completed 115 quarter hours of work with an average of at least 4.0 are eligible for membership.

OTHER PHARMACEUTICAL ASSOCIATIONS

The Chicago Branch of the American Pharmaceutical Association, composed of representative pharmacists of Chicago and vicinity, holds its monthly meetings at the College of Pharmacy. Students of Pharmacy are invited to attend.

The College of Pharmacy holds membership in the American Association of Colleges of Pharmacy. The object of the association is to promote the interests of pharmaceutical education, and all institutions holding mem-

bership must maintain certain minimum requirements for entrance and graduation. Through the influence of this association, high standards of education have been maintained.

PLAN OF INSTRUCTION

Pharmacy is a health profession concerned with the selection, preservation, standardization, preparation, and distribution of drugs and medicinals. It is based on two groups of fundamental sciences, the physical and the biological. Advancements in these sciences have contributed so much to the health professions that it is imperative for the pharmacist to be thoroughly trained in the fundamental sciences as well as in the applied and professional subjects. Accordingly, ample time in the curriculum of the College of Pharmacy is devoted to the physical and biological sciences and other subjects necessary to the practice of Pharmacy.

As there are several allied and related fields to which individuals with a pharmaceutical training are particularly adaptable, each student is permitted to elect specialized courses during his fourth year.

The College of Pharmacy offers a four-year curriculum, leading to the degree of Bachelor of Science in Pharmacy, as summarized on pages 30 and 31. The courses included in the basic curriculum are required of all students. Elective courses for the fourth year are determined through consultation with the class adviser.

SIGNIFICANCE OF GRADES OF THE COLLEGE OF PHARMACY

Grades given for work in the College of Pharmacy are as follows: A, excellent; B, good; C, fair; D, poor (but passing); E, failure. Numerical equivalents of these grades on the basis of which averages are made are as follows: each hour of A grade carries 5 grade points; each hour of B grade, 4 grade points; each hour of C grade, 3 grade points; each hour of D grade, 2 grade points; each hour of E grade, 1 grade point.

In addition to the above grades, the following symbols are used. The symbol W indicates withdrawal from the course with permission of the Dean. The grade of E may be given to students withdrawn from the course who were doing unsatisfactory work at the time of withdrawal. Withdrawal because of military service is subject to special regulations. If a student is absent from the final examination without excuse acceptable to the Dean, the symbol Ab. is used and counts as a failure. If a student is absent from the final examination with excuse acceptable to the Dean, the symbol Ex. is used. The mark of Ex. entitles the student to an examination later without fee, but becomes a failure, unless removed at

the first opportunity approved by the Dean. The symbol Dr. indicates that the student was dropped for academic irregularity and counts as a failure.

In order to qualify for graduation, a student must have completed successfully a minimum of 202 quarter hours and earned a minimum of 606 grade points. A minimum grade-point average of 3.0, or C, including work taken elsewhere and accepted for advanced credit, is required for graduation. An average of not less than 3.0 must be attained in work done at the University of Illinois. Failures of required courses in the curriculum must be removed by repeating successfully those courses in which a grade of E is obtained. Where a course is repeated, both the original and subsequent grades are included in the average.

Probationary Status. Any student who fails to attain a 3.0 average in the work for which he receives a grade at the end of a quarter is placed on probation. A student can remove himself from probationary status only upon earning a 3.0 average during his next period of registration. A student who is placed on probation may be required to limit his schedule until probationary status is removed.

Refusal of Further Registration Because of Poor Scholarship. A student who fails to remove himself from probationary status during his next period of registration may be dropped for poor scholarship. A student who receives either unsatisfactory or failing grades in a substantial portion of the work for which he receives a grade at the end of a quarter may be dropped for poor scholarship. A student who receives failing grades in one-half or more of the work for which he receives a grade at the end of a quarter is dropped for poor scholarship. A student who is refused further registration because of poor scholarship may petition the Committee on Student Status and Promotion for readmission. Reconsideration of the case of a student dropped for poor scholarship does not guarantee readmission. Except for unusual circumstances, a student may be reinstated only once.

Promotion to the Next Higher Class. Any student who, at the end of the academic year, has completed substantially all of the normal program, and has a cumulative grade-point average of 3.0 or better, is promoted to the next higher class. A student who, at the end of the academic year, has a cumulative grade-point average of less than 3.0 may be promoted to the next higher class only with the approval of the Committee on Student Status and Promotion. If a student's cumulative grade-point average is substantially below 3.0, promotion to the next higher class may be withheld.

SUMMARY OF CURRICULUM IN PHARMACY

BASIC CURRICULUM

	FIRST YEAR									
	1st Quarter			2d Quarter			3d Quarter			Total
	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.	Cr.
Chemistry 143, 144, 145.....	4	3	5	4	3	5	3	6	5	15
English 120, 121, 122.....	3	0	3	3	0	3	3	0	3	9
Mathematics 140, 141, 142.....	3	0	3	3	0	3	3	0	3	9
Orientation 160.....	1	0	0	..	..	..	..	..	..	0
Pharmacy 100, 101, 102.....	2	0	2	2	0	2	2	3	3	7
Zoology 161, 162, 163.....	2	6	4	3	6	5	2	6	4	13
	15	9	17	15	9	18	13	15	18	53

SECOND YEAR											
Chemistry 146.....	4	6	6	..	..	..	..	..	..	6	
Chemistry 147, 148.....	..	..	..	4	6	6	4	6	6	12	
Pharmacy 103, 104, 105.....	2	4	4	2	4	4	2	4	4	12	
Pharmacy Administration 124.....	..	..	..	..	..	..	3	0	3	3	
Physics 150, 151, 152.....	3	3	4	3	3	4	3	3	4	12	
Psychology 125.....	..	..	..	3	0	3	..	..	..	3	
Sociology 123.....	3	0	3	..	..	..	..	..	..	3	
	12	13	17	12	13	17	12	13	17	51	

THIRD YEAR											
Bacteriology 280.....	..	..	..	..	..	..	3	6	6	6	
Chemistry 240.....	4	3	5	..	..	..	..	..	..	5	
Chemistry 331, 332.....	..	..	..	3	6	5	3	6	5	10	
Pharmacognosy 290, 291, 292.....	3	3	4	3	3	4	3	3	4	12	
Pharmacy 200, 201, 202.....	2	3	3	2	3	3	2	3	3	9	
Physiology 260, 261.....	3	3	4	3	3	4	..	..	..	8	
	12	12	16	11	15	16	11	18	18	50	

FOURTH YEAR											
Bacteriology 281.....	2	0	2	..	..	..	..	..	..	2	
Chemistry 244.....	..	..	..	2	6	4	..	..	..	4	
Chemistry 342.....	4	0	4	..	..	..	..	..	..	4	
Pharmacology 262, 263, 264.....	3	3	4	3	3	4	3	3	4	12	
Pharmacy 203, 204, 205.....	3	0	3	3	0	3	1	4	3	9	
Pharmacy Administration 230.....	..	..	..	..	..	..	4	0	4	4	
	12	3	13	8	9	11	8	7	11	35	

Electives..... 5 - 7 5 - 7 5 - 7 15-21

Basic curriculum 189 hours (required of all students).

ELECTIVE SUBJECTS AVAILABLE TO SENIOR STUDENTS

	Didactic	Laboratory	Credit Hours
First Quarter:			
Chemistry 245.....	4	0	4
Chemistry 346.....	2	9	5
Pharmacy 206.....	1	6	3
Pharmacy 207.....	1	6	3
Pharmacy 208.....	1	6	3
Pharmacy Administration 220.....	2	3	3

Second Quarter:

Chemistry 340.....	4	3	5
Pharmacognosy 301.....	2	9	5
Pharmacognosy 310.....	2	3	3
Pharmacy 206.....	1	6	3
Pharmacy 207.....	1	6	3
Pharmacy 208.....	1	6	3
Pharmacy Administration 221.....	4	0	4
Zoology 304.....	3	3	4

Third Quarter:

Chemistry 343.....	2	9	5
Chemistry 349.....	2	9	5
Chemistry 350.....	3	6	5
Entomology 270.....	3	3	4
Pharmacognosy 302.....	3	6	5
Pharmacognosy 311.....	1	6	3
Pharmacy 206.....	1	6	3
Pharmacy 207.....	1	6	3
Pharmacy 208.....	1	6	3
Pharmacy 209.....	1	6	3
Pharmacy Administration 248.....	3	0	3

Preregistration of students to complete the senior year is held subsequent to the completion of the junior year. Students are asked to indicate their desires and objectives in terms of (1) graduate study and training and (2) study areas of particular interest.

The following elective programs are recommended:

A. For students not planning to undertake graduate study:

First Quarter	Second Quarter	Third Quarter
Pharmacy 206	Pharmacy 208	Entomology 270
Pharmacy 207	Pharmacy Administration 221	Pharmacy 209
Pharmacy Administration 220		Pharmacy Administration 248

B. For students anticipating graduate training in Pharmacy:

Chemistry 245	Chemistry 340	Chemistry 349
Pharmacy 206	Pharmacy 207	Entomology 270
		Pharmacy 208

C. For students anticipating graduate training in Chemistry:

Chemistry 346	Chemistry 340	Chemistry 349
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D. For students anticipating graduate training in the Biological Sciences:

Chemistry 245	Pharmacognosy 301	Entomology 270
	Zoology 304	Pharmacognosy 302

COURSES OF INSTRUCTION

The following list of subjects is arranged in alphabetical order. The description of each course includes a statement of the number of lecture, recitation, or laboratory periods each week (each period being one clock hour unless otherwise specified). The total clock hours, with their distribution in didactic and laboratory work, are shown in the summary of the curriculum, which also shows the credit in quarter hours. In the description of each course the quarter during which it is given is indicated by a

Roman numeral, "I" for the first quarter, "II" for the second quarter, and "III" for the third quarter, followed by an Arabic numeral in parenthesis indicating the number of credit hours. For example, "I, (3)" means that the course is given in the first quarter for three hours of credit. The expression "I, II, or III" is used if the course may be taken in any quarter.

BACTERIOLOGY

- 280. General Bacteriology and Microbiology.** Characteristics of bacteria, yeasts, and molds; their relation to disease; biologic products prepared from them; action of antiseptics, disinfectants, and sterilizants; cleaning and sterilizing glassware; preparation of culture media and staining solutions; preparation of cultures and stained mounts; isolation and identification of organisms from mixed cultures; milk and water counts; disinfectant standardization; antibiotics. Three lectures and three two-hour laboratory periods each week. III, (6).
- 281. General Bacteriology and Microbiology.** Continuation of Course 280. Viruses, bacteriophage, pathogenic protozoa and metozoa, mycology and pathogenic fungi, epidemiology and control of communicable diseases and public health administration. Two lectures or recitations each week. I, (2). Prerequisite: Bacteriology 280.

CHEMISTRY

- 143, 144, 145. General Chemistry and Qualitative Analysis.** A study of the fundamental concepts of physical science; the physical laws as they are needed for the continuing study of chemistry; theories of atomic and molecular structure; the periodic properties of the elements; the formation of compounds; descriptive chemistry; properties of positive and negative ions, and the reactions utilized in the systematic separation and identification of them; practice in equation writing and the solution of problems. Four lectures or recitations and one three-hour laboratory period each week. I, (5) and II, (5). Three lectures or recitations and two three-hour laboratory periods each week. III, (5).
- 146. Quantitative Analysis.** Theories and technic of gravimetric and volumetric analysis. Whenever possible the methods of the U.S.P. are used to illustrate their application, and pharmaceutical or medicinal products are used for practical examinations. Four lectures or recitations and two three-hour laboratory periods each week. I, (6). Prerequisite: Chemistry 145 and Mathematics 142.
- 147, 148. Organic Chemistry.** Nomenclature, occurrence, general methods of preparation, type reactions, and special reactions of acyclic, alicyclic, and aromatic hydrocarbons; their oxygen, halogen, nitrogen, and sulfur derivatives; proteins, carbohydrates; the simpler oxygen, nitrogen, and sulfur heterocyclics. Four lectures or recitations and two three-hour



ORGANIC CHEMISTRY LABORATORY

laboratory periods each week. II, (6) and III, (6). Must be taken in sequence. Prerequisite: Chemistry 145 and Mathematics 142.

- 240. Physical Chemistry.** An introductory course outlining the scope of the field and the relationships and applications to other fields of science. Four lectures or recitations and one three-hour laboratory period each week. I, (5). Prerequisite: Chemistry 146, 148, and Physics 152.
- 244. Drug Assaying.** Principles and methods of drug standardization applied to substances included in the U.S.P. Preparation and standardization of volumetric solutions; assays of alkaloid-bearing drugs, essential oils, aldehydes and phenol; determination of alcohol in pharmaceutical preparations; acid, saponification, and iodine values of fats; refractive index and specific rotation. Two lectures or recitations and two three-hour laboratory periods each week. II, (4). Prerequisite: Chemistry 146 and 148.
- 245. Chemistry of Natural Products.** A study of the occurrence, origin, biological significance, nomenclature, physical and chemical properties, methods of isolation and pharmaceutical uses of important natural substances such as sugars, sugar alcohols, polyhydroxy acids, gums, mucilages, pectins, glycosides, fats, waxes, sterols, hormones, vitamins, enzymes, essential oils and resins. I, (4). May be elected in senior year only. Prerequisite: Chemistry 148.
- 331, 332. Biological Chemistry.** Course material equivalent to Biological Chemistry 301 in the College of Medicine. II, (5) and III, (5). Must be taken in sequence. Prerequisite: Chemistry 146 and 148.

340. **Physical Chemistry.** (Second course.) A study of theoretical and applied electrochemistry and the chemistry of colloids. Four lectures or conferences and one three-hour laboratory period each week. II, (5). May be elected in senior year only. Prerequisite: Chemistry 240.
342. **Chemistry of Synthetic Drugs.** A study of modern synthetic drugs with regard to their nomenclature, methods of synthesis, relation to other drugs having similar therapeutic, physical, and chemical properties. Four lectures each week. I, (4). Prerequisite: Chemistry 148.
343. **Chemical Toxicology.** A course concerned with the common sources, chemistry of the physiological action, methods of isolation, and identification of toxic agents commonly encountered as industrial hazards and as the cause of accidental or purposeful poisoning. Two lectures and three three-hour laboratory periods each week. III, (5). May be elected in senior year only. Prerequisite: Chemistry 148 and concurrent registration in Pharmacology.
346. **Synthesis of Drugs.** Continuation of the study of organic chemistry and the applications of the type reactions to the manufacture of organic medicinal chemicals and their intermediates. Barbital, cinchophen, acetophenetidin, phenolphthalein, tryparsamide, hexylresorcinol, guaiacol, methylene blue, or others may be selected in consultation with the instructor. Reference to the original work on the substance elected is encouraged. Two lectures or recitations and three three-hour laboratory periods each week. I, (5). May be elected in senior year only. Prerequisite: Chemistry 148.
349. **Pharmaceutical Assaying.** Chemical and physical methods of analysis of raw materials and dosage forms of medication involving the principles of sampling and quantitative separation of active compounds from inactive diluent or vehicle or from other active components. Two lectures or conferences and three three-hour laboratory periods each week. II or III, (5). May be elected in senior year only. Prerequisite: Chemistry 244.
350. **Instrumental Analysis.** The principles, methods, and technics of analytical chemistry using modern electrical and electronic instruments. Three lectures and two three-hour laboratory periods each week. III, (5). May be elected in senior year only. Prerequisite: Chemistry 146, 148, 240, and Physics 152.

(See Graduate College catalog for courses offered to graduate students.)

ENGLISH

- 120, 121, 122. **English Composition.** Practice in writing, reading, note-taking, and organizing material related to the work in other courses. Three class periods each week. I, (3); II, (3); and III, (3). A passing grade in English 120 is prerequisite to registration in English 121, etc.

ENTOMOLOGY

270. **Fundamentals of Insect Control.** A consideration of the Class Insecta with emphasis on the members of economic and public health importance. Insect characteristics are related to economic and public health factors and to standard procedures of control. Application of chemical insecticides and the position of the pharmacist in the distribution of insecticide poisons will receive particular attention. Three lectures and one three-hour laboratory period each week. III, (4). May be elected in senior year only.

LANGUAGES

- German or French.** During their senior year students may elect German or French in any college or university accredited by the University of Illinois, and may present not more than twelve quarter hours of either language for advanced credit in lieu of other electives, provided that approval of the Dean is secured.

MATHEMATICS

- 140, 141, 142. **Elementary Mathematical Analysis.** A three-quarter course designed to provide background for required science courses and to serve as a terminal course in mathematics for pharmacy students. I, (3); II, (3); and III, (3). A passing grade in Mathematics 140 is prerequisite to registration in Mathematics 141, etc.

ORIENTATION

160. **Orientation.** A course designed to aid the new student in making a satisfactory adjustment to college. Some suggestions are given for developing proper study habits. The curriculum, the system of grades, opportunities in pharmacy, and other related matters are discussed. Also included is an introduction to factors influencing the maintenance of personal health. One lecture each week. I, (0).

PHARMACOGNOSY

- 290, 291, 292. **Principles of Pharmacognosy.** A lecture, laboratory, and field study of the fundamental botany and pharmacognosy of the principal drugs of vegetable and animal origin. Related products of economic importance bearing upon the health of man and animal are considered. Three lectures and one three-hour laboratory period each week. I, (4); II, (4); and III, (4).
301. **Plant Anatomy.** A microscopic study of the structure of vascular plants with particular attention to the development and evaluation of the vascular systems in all parts of the plant. Two lectures and three three-hour laboratory periods each week. II, (5). May be elected in senior year only. Prerequisite: Pharmacognosy 292.
302. **Plant Physiology.** A study of life processes in plants, with particular attention to the cell as the fundamental functional unit. The basic prin-

ciples of plant metabolism are emphasized in relation to essential elements, energy relationship and other environmental factors. Three lectures or conferences and two three-hour laboratory periods each week. III, (5). May be elected in senior year only. Prerequisite: Pharmacognosy 292.

310. **Crystallography.** A study of basic crystal morphology, the principles of optical crystallography, and an introduction to the practical application of these studies. Two lectures and one three-hour laboratory period each week. II, (3). May be elected in senior year only.
311. **Chemical Microscopy.** The application of the principles of crystallography and of microchemistry to the identification of organic and inorganic chemicals. Special attention is given to alkaloids, glycosides, and other materials of biological and pharmaceutical interest. One lecture and two three-hour laboratory periods each week. III, (3). May be elected in senior year only.

(See Graduate College catalog for courses offered to graduate students.)

PHARMACOLOGY

262. **Pharmacology.** A consideration of the factors underlying the application of pharmacologic principles and agents to therapeutic problems. Lecture-discussions are pointed to an understanding of the problems involved in the development and standardization of drug agents, of the basic tissue responses to drug action and drug injury, and of the fundamental sites of drug action. Three lectures and one three-hour laboratory period each week. I, (4). Prerequisite: Physiology 261, Chemistry 332, Bacteriology 280, and Pharmacognosy 292.
263. **Pharmacology.** A systematic consideration of the pharmacologic action and therapeutic implications of the principal drug agents, and the role of pharmacology in establishing rational principles of therapy. Three lectures and one three-hour laboratory period each week. II, (4). Prerequisite: Pharmacology 262.
264. **Pharmacology.** An extension of the application of pharmacologic principles in the fields of chemotherapy, antibiotic drugs, and toxicology. Three lectures and one three-hour laboratory period each week. III, (4). Prerequisite: Pharmacology 263.

PHARMACY

100. **Introductory Pharmacy.** An orientation course covering the scope, historical development, and literature of pharmacy. Two lectures or recitations each week. I, (2).
101. **Pharmaceutical Weights and Measures.** Nomenclature and definitions of the systems of weights and measures used in pharmacy, relationships of the various systems, and the calculations involved. Two lectures or recitations each week. II, (2). Prerequisite: Pharmacy 100.

- 102. Pharmaceutical Processes.** A study of pharmaceutical processes and manipulations, definitions, and nomenclature. Laboratory work consists of experiments to illustrate the important pharmaceutical technics. Two lectures or recitations and one three-hour laboratory period each week. III, (3). Prerequisite: Pharmacy 101.
- 103. Galenical Pharmacy I.** A discussion of official and non-official galenical pharmaceuticals: aromatic waters, solutions, syrups, elixirs, and related types of preparations. The laboratory work includes manufacture of representative examples of each type. Two lectures and two two-hour laboratory periods each week. I, (4). Prerequisite: Pharmacy 102.
- 104. Galenical Pharmacy II.** Lectures consist of discussion of official and non-official galenical pharmaceuticals of the following classes: colloids, glycerites, liniments, oleates, emulsions, infusions, decoctions, tinctures, fluidextracts, resins and extracts, powders, triturations, and effervescent salts. Laboratory work follows lectures closely. Two lectures and two two-hour laboratory periods each week. II, (4). Prerequisite: Pharmacy 103.
- 105. Galenical Pharmacy III.** Discussion of official and non-official galenical pharmaceuticals of the following classes: ointments, pastes, creams, cerates, cataplasms, suppositories, capsules, pills, troches, tablets, etc. Laboratory work consists of the manufacture of selected examples of these classes of preparations. Two lectures and two two-hour laboratory periods each week. III, (4). Prerequisite: Pharmacy 104.
- 200. Dispensing of Inorganic Materials.** Consideration of the pharmaceutical, medical, and technical uses of official inorganic materials, including

JUNIOR-SENIOR DISPENSING LABORATORY



reactions giving incompatibilities in prescription compounding. Laboratory work consists of selected experiments demonstrating principles discussed in the lectures. Two lectures and one three-hour laboratory period each week. I, (3). Prerequisite: Pharmacy 105 and Chemistry 146.

201. **Dispensing of Organic Materials.** Consideration of the pharmaceutical, medical, and technical usage of official organic materials, including reactions giving incompatibilities in prescription compounding. Laboratory work consists of selected experiments demonstrating principles discussed in the lectures. Two lectures and one three-hour laboratory period each week. II, (3). Prerequisite: Pharmacy 200.
202. **Dispensing Technics.** Lectures and laboratory work in technics of dispensing prescriptions, nomenclature, reading of difficult sample prescriptions, and basic incompatibility problems. Two lectures and one three-hour laboratory period each week. III, (3). Prerequisite: Pharmacy 201.
203. **Advanced Dispensing I.** Discussion of principles involved in complex pharmaceutical preparations and development of dispensing technics applied to current products. Three lectures each week. I, (3). Prerequisite: Pharmacy 202.
204. **Advanced Dispensing II.** Discussion of the special topics of manufacturing pharmacy, clinical reagents, surgical supplies, dental and veterinary pharmacy, insecticides and rodenticides, and biological products as related to handling and dispensing problems. Three lectures each week. II, (3). Prerequisite: Pharmacy 203.
205. **Advanced Dispensing III.** Discussion and experimental laboratory development of problems of dispensing isotonic, buffered and collyria solutions, colloids, emulsions, and suspensions, with study of representative prescription specialties illustrating these types of preparations. One lecture and two two-hour laboratory periods each week. III, (3). Prerequisite: Pharmacy 204.
206. **Hospital Pharmacy.** Fundamentals of hospital pharmacy management. One conference period and six hours in the hospital pharmacy each week. I, II, and III, (3). May be elected in senior year only.
207. **Manufacturing Processes.** Manufacture of pharmaceutical products on a semi-commercial scale, including analytical control of raw materials and finished preparations. One conference period and six hours of laboratory work each week. I, II, and III, (3). May be elected in senior year only.
208. **Parenteral and Special Solutions.** Preparation of solutions for intravenous and subcutaneous use. One conference period and six hours of laboratory work each week. I, II, and III, (3). May be elected in senior year only.

- 209. Cosmetic Technology.** Composition, formulation, and manufacture of selected types of cosmetics such as face, tooth, talcum, and foot powders, cold and vanishing creams, hand lotions, rouges, lipstick, bath salts, etc. Problems of perfuming, coloring, packaging, and preservation are considered. Representative types of these products are made during the laboratory periods: One lecture and six hours of laboratory each week. III, (3). May be elected in senior year only.

(See Graduate College catalog for courses offered to graduate students.)

PHARMACY ADMINISTRATION

- 124. Principles of Economics.** Principles of production, supply, demand, value, price, distribution. Three lectures or recitations each week. III, (3). Prerequisite: Sophomore standing.
- 220. Principles of Accounting.** Fundamentals of accounting practice with special application to requirements of the retail pharmacy. Two lectures or recitations and one three-hour laboratory period each week. I, (3). May be elected in senior year only.
- 221. Principles of Marketing.** The policies and problems involved in the manufacturing, wholesaling, and retailing of drugstore merchandise. Four lectures or recitations each week. II, (4). May be elected in senior year only. Prerequisite: Pharmacy Administration 124 and 220.
- 230. Pharmaceutical Jurisprudence.** Laws and regulations relating to the practice of pharmacy; principles of common law bearing upon the work and responsibilities of the pharmacist. Four lectures each week. III, (4). Prerequisite: Senior standing.
- 248. Retail Pharmacy Management.** Discussion of the principles of store establishment, financing, departmentalization, buying, promotional activities, personnel selection, and operational problems of a retail pharmacy. Three lectures or recitations each week. III, (3). Prerequisite: Pharmacy Administration 221 and senior standing.

PHYSICAL EDUCATION

Note: In addition to the work offered in Physical Education, an extensive intramural athletic program for men is in operation. Intercollegiate athletics are limited to basketball at present. A small gymnasium, athletic field, and two tennis courts are open daily. Recreational swimming and handball are offered free to male students at the Duncan YMCA. Women students are offered use of the West Side YWCA and access to archery and table tennis equipment at the Illini Union Building.

Physical Education Practice. The measurement, development, and maintenance of physical fitness in accordance with each student's needs and abilities. Two hours each week. Elective at any time during the four years.

PHYSICS

150, 151, 152. **General Physics.** Mechanics, heat, sound, electricity, magnetism, light, and atomic physics. Two lectures, one recitation, and one three-hour laboratory period each week. I, (4); II, (4); and III, (4). Prerequisite: Mathematics 142. Physics 150 is a prerequisite to either Physics 151 or 152.

PHYSIOLOGY

260. **Human Physiology.** Physiology of blood, including spleen; heart and circulation; respiration; gastrointestinal tract and liver; kidney, skin, and water balance. Three lectures or recitations and one three-hour laboratory period each week. I, (4). Prerequisite: Junior standing.

261. **Human Physiology.** Physiology of endocrines, heat regulation, nutrition, and metabolism; muscle and nerve; central nervous system and autonomic nervous system; and senses. Three lectures or recitations and one three-hour laboratory period each week. II, (4). Prerequisite: Physiology 260.

PSYCHOLOGY

125. **Psychology.** Introduction to psychology. Introductory analysis and description of human behavior, with special reference to observation, learning, memory, thinking, emotional life, and personality development. Three lectures or recitations each week. II, (3). Prerequisite: Sophomore standing.

A PRESCRIPTION CASE USED IN THE HOSPITAL PHARMACY DISPENSING UNIT LOCATED IN THE UNIVERSITY OF ILLINOIS RESEARCH AND EDUCATIONAL HOSPITALS



SOCIOLOGY

123. **Sociology.** A systematic study of the fundamental aspects of human society, personality, social organization, social change. Three lectures or recitations each week. I, (3). Prerequisite: Sophomore standing.

ZOOLOGY

161. **General Zoology.** An introductory course stressing the basic biologic principles of cytology, metabolism, embryology, anatomy, genetics, and evolution as illustrated by the major animal phyla. Two lectures and two three-hour laboratory periods each week. I, (4).
162. **Mammalian Zoology.** The structure, as correlated with function, of man as a typical mammal, using the cat for laboratory dissection. Three lectures and two three-hour laboratory periods each week. II, (5). Prerequisite: Zoology 161.
163. **Mammalian Histology.** A study of the fundamental microscopic anatomy of tissues, organs, and organ systems. Correlation between structure and function is emphasized. Two lectures and two three-hour laboratory periods each week. III, (4). Prerequisite: Zoology 162.
304. **Genetics.** This course will consider the fundamental principles of biological inheritance, and the application of these in the study of plant and animal life. Three lectures and one three-hour laboratory period each week. II, (4). May be elected in senior year only. Prerequisite: Zoology 162 or equivalent.

(See Graduate College catalog for courses offered to graduate students.)

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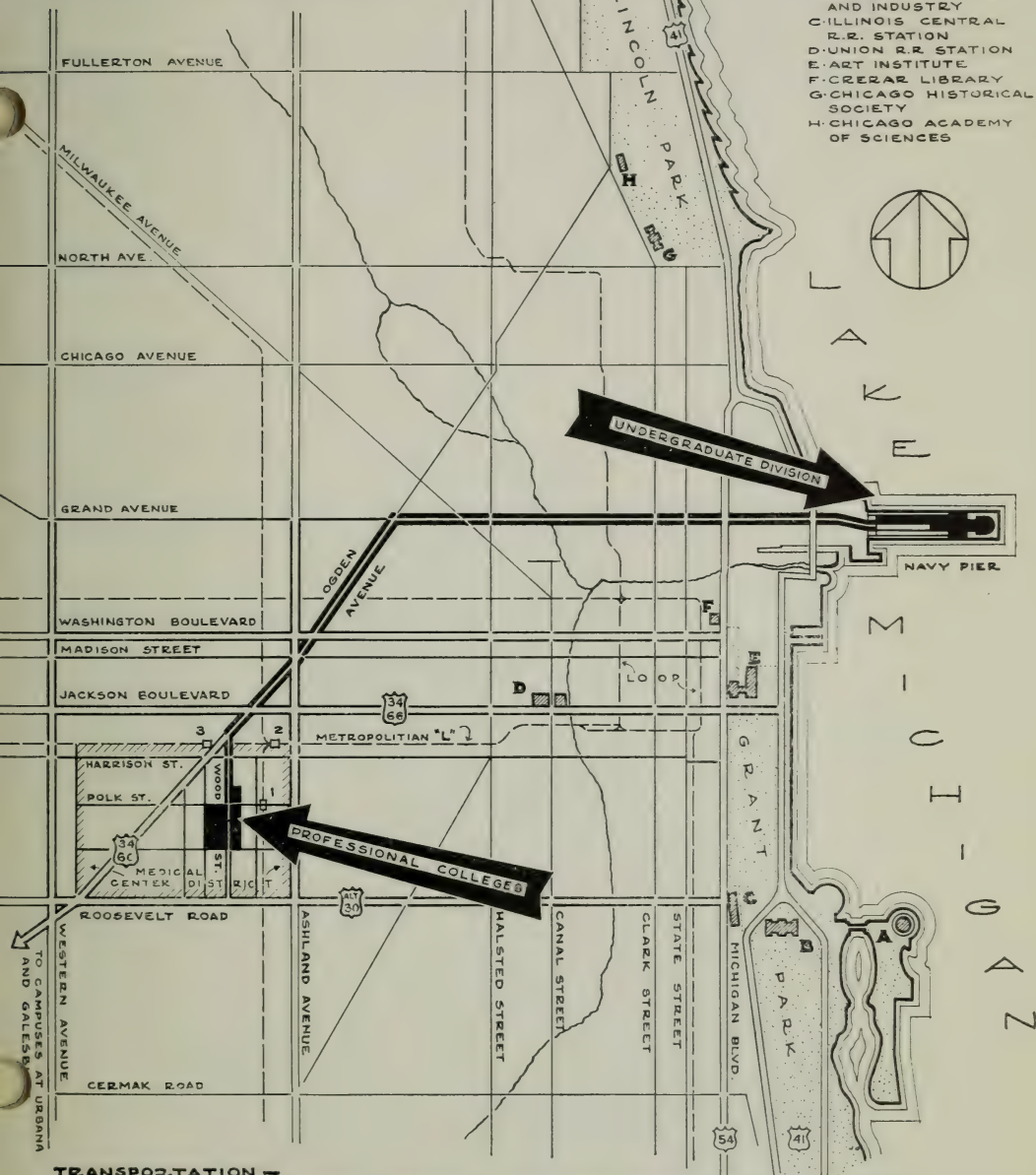
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UNIVERSITY OF ILLINOIS

CHICAGO PROFESSIONAL COLLEGES
CHICAGO UNDERGRADUATE DIVISION

LEGEND -

- A-ADLER PLANETARIUM
- B-MUSEUM OF SCIENCE AND INDUSTRY
- C-ILLINOIS CENTRAL R.R. STATION
- D-UNION R.R. STATION
- E-ART INSTITUTE
- F-CRERAR LIBRARY
- G-CHICAGO HISTORICAL SOCIETY
- H-CHICAGO ACADEMY OF SCIENCES



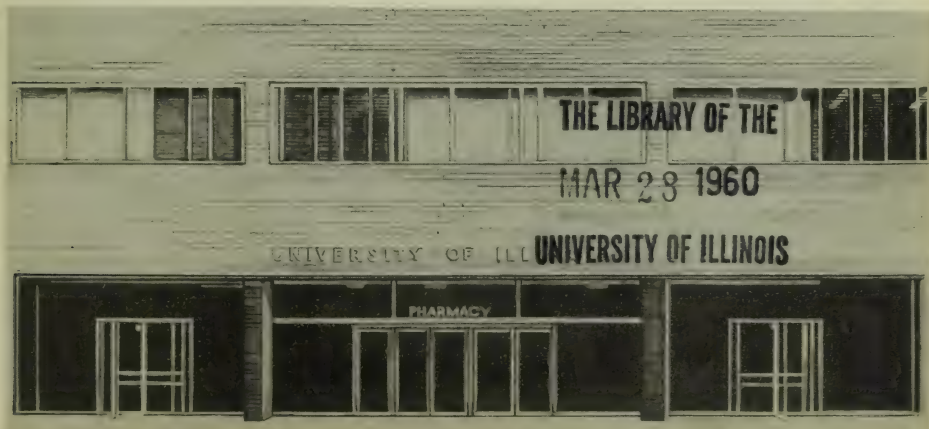
TRANSPORTATION -

FEEDER BUS - POLK & WOOD STREETS, TRANSFER GRAND AVE. STREET CAR.
STREET CAR - ASHLAND CAR ON PAULINA ST., TRANSFER GRAND AVENUE.
"L" STATIONS: 1-POLK ST. 2-MARSHFIELD 3-OGDEN AVE., ALL TRAINS TO LOOP,
TRANSFER STONY ISLAND STREET CAR.

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1959/61

COLLEGE OF PHARMACY

UNIVERSITY OF ILLINOIS • CATALOG 1959-1961



BUILDING LOBBY



COLLEGE OF PHARMACY
UNIVERSITY OF ILLINOIS
CATALOG 1960-1962

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CALENDAR

1959 — FALL QUARTER

September 24, 25.....Registration and orientation
September 28, Monday.....First day of classes
November 26, Thursday.....Thanksgiving Day
December 19, Saturday.....Fall quarter ends

1960 — WINTER QUARTER

January 4, Monday.....First day of classes
March 19, Saturday, 12:00 noon.....Winter quarter ends

1960 — SPRING QUARTER

March 28, Monday.....First day of classes
May 30, Monday.....Memorial Day
June 11, Saturday, 12:00 noon.....Spring quarter ends

1960 — SUMMER QUARTER

June 20, Monday.....First day of summer term
July 4, Monday.....Independence Day
July 30, Saturday, 12:00 noon.....First six-week summer term ends
August 1, Monday.....Second six-week summer term begins
September 5, Monday.....Labor Day
September 10, Saturday, 12:00 noon.....Second six-week summer term ends

1960 — FALL QUARTER

September 20, 21.....Registration and orientation
September 26, Monday.....First day of classes
November 24, Thursday.....Thanksgiving Day
December 17, Saturday, 12:00 noon.....Fall quarter ends

1961 — WINTER QUARTER

January 3, Tuesday.....First day of classes
March 18, Saturday, 12:00 noon.....Winter quarter ends

1961 — SPRING QUARTER

March 27, Monday.....First day of classes
May 30, TuesdayMemorial Day
June 10, Saturday, 12:00 noonSpring quarter ends

1961 — SUMMER QUARTER

June 19, MondayFirst day of summer term
July 4, TuesdayIndependence Day
July 29, Saturday, 12:00 noon.....First six-week summer term ends
July 31, Monday.....Second six-week summer term begins
September 4, MondayLabor Day
September 9, Saturday, 12:00 noonSecond six-week summer term ends

1961 — FALL QUARTER

September 21, 22.....Registration and orientation
September 25, MondayFirst day of classes
November 23, ThursdayThanksgiving Day
December 16, Saturday.....Fall quarter ends

1962 — WINTER QUARTER

January 2, Tuesday.....First day of classes
March 17, Saturday, 12:00 noon.....Winter quarter ends

1962 — SPRING QUARTER

March 26, Monday.....First day of classes
May 30, Wednesday.....Memorial Day
June 9, Saturday, 12:00 noonSpring quarter ends

1962 — SUMMER QUARTER

June 18, MondayFirst day of classes
July 4, Wednesday.....Independence Day
July 28, Saturday, 12:00 noon.....First six-week summer term ends
July 30, Monday.....Second six-week summer term begins
September 3, Monday.....Labor Day
September 8, Saturday, 12:00 noonSecond six-week summer term ends

COLLEGE OF PHARMACY

LOCATION, HISTORY, AND ADMINISTRATION

LOCATION

The College of Pharmacy of the University of Illinois is located in the great medical center on the west side of Chicago. The work of the College of Pharmacy is centralized in the new East Unit of the Dentistry-Medicine-Pharmacy Building at 833 South Wood Street. The work of the Colleges of Dentistry and Medicine, the Graduate College, and the College of Nursing is centralized in the Dentistry-Medicine-Pharmacy Building which faces on Polk, Wood, and Wolcott Streets. The campus of the University of Illinois Chicago Professional Colleges, which is located about three miles from the Loop, or main business district of the city, can be reached conveniently by elevated train, bus, or automobile.

The University of Illinois Research and Educational Hospitals located at 840 South Wood Street and the Illinois Eye and Ear Infirmary located at 904 West Adams Street provide excellent facilities for the teaching of hospital pharmacy to both undergraduate and graduate students.

The Drug Plant Experiment Station, located at Lisle, Illinois, provides a unique opportunity for the development of drug plant research and the training of graduate students who are majoring in the field of pharmacognosy. The facilities of the Station are augmented by the very extensive plant culture programs of the Morton Arboretum.

HISTORY

The College of Pharmacy was originally an independent proprietary institution before becoming affiliated with the University of Illinois. It is older, having been organized as the Chicago College of Pharmacy on September 5, 1859. It was established eight years before the University itself was incorporated. It was the fifth institution of its kind in the United States. Activities were suspended during the Civil War, and the College was not reopened until 1870. When its property was destroyed by the Chicago fire of 1871, the pharmacists of the world promptly came to the rescue, those of Great Britain in particular. They enabled the College to reopen again in 1872, with new equipment, including a library, much better than before. In 1896, it became the School of Pharmacy of the University of Illinois, and in 1932 its name was changed to the College of Pharmacy when the curriculum leading to the degree of Bachelor of Science in Pharmacy was announced. In 1939-1940 the College of Pharmacy was moved from its former quarters, 715 South Wood Street, to the Dentistry-Medicine-Pharmacy Building at 808 South Wood Street.

Teaching and research facilities of the College were greatly expanded by the completion and occupancy of a new classroom and laboratory building prior to the opening of the fall quarter of 1954. The new six-story East Unit of the Dentistry-Medicine-Pharmacy Building at 833 South Wood Street now provides administrative and general offices for the College of Pharmacy, lecture halls, classrooms, manufacturing, research, teaching, and dispensing laboratories, storage space for both teaching and research materials, and space for 800 student lockers. Upon recommendation of the faculty, a new expanded program leading to the degree of Bachelor of Science in Pharmacy will become effective after April 1, 1960. The new curriculum consists of five years of academic training, the first of which will be taken in any accredited junior college, college, or university, followed by four years of professional instruction at the Chicago campus. With the added teaching facilities, the College of Pharmacy is planning the establishment of a postgraduate teaching program, which will enable the University to render state-wide services to the 4,200 community pharmacies and the 7,000 practicing pharmacists in Illinois.

ADMINISTRATION

Under the laws of the state of Illinois, the Board of Trustees of the University of Illinois is composed of eleven members, including the Governor and the Superintendent of Public Instruction who serve ex-officio, nine members being elected by the people of the state for terms of six years.

Under the University Statutes adopted by the Board of Trustees, the affairs of the University are administered by the President, the Vice-President and

Provost, the Vice-President in charge of the Chicago Professional Colleges, the Executive Dean of the Chicago Undergraduate Division, the deans and directors of the colleges and schools, and other administrative officers. The Chicago Professional Colleges consist of the College of Dentistry, the College of Medicine, the College of Pharmacy, and the College of Nursing, each having its own dean, and all being under the general supervision of the Vice-President in charge of the Chicago Professional Colleges.

Graduate work at the Chicago Professional Colleges is conducted by a division of the Graduate College under the supervision of an Associate Dean. The present work of the Graduate College is described in detail in a separate announcement.

A senate is constituted at each campus of the University and consists of the full professors, the deans of colleges, the directors of schools and institutes, the heads and chairmen of departments, and elected members from each faculty. Any faculty member elected to a senate committee is a member of the senate during his committee membership.

Members of the faculty in each college cooperate with those in other colleges of the University, both in instruction and in research. Staff members of the basic science departments in the College of Medicine also give instruction for students of dentistry, pharmacy, nursing, and occupational therapy.

ACCREDITATION

The College of Pharmacy of the University of Illinois is fully accredited by the American Council on Pharmaceutical Education. The Council is the only accrediting agency for the profession of pharmacy, and is an affiliate of the American Council on Education.

LIBRARY

The library's collection is a comprehensive one of standard and modern works on dental, medical, nursing, pharmaceutical, social work, and allied scientific subjects, with some 1,300 current periodicals and more than 137,000 volumes on its shelves. Its facilities are available for reference use and most materials may be withdrawn for use outside the reading rooms.

RECREATIONAL FACILITIES

The social and recreational center for all students, alumni, and faculty members is the Chicago Illini Union Building, 715 South Wood Street. Its facilities include a cafeteria, grill, soda fountain, browsing room, music room, gymnasium, meeting rooms, and game rooms. Intramural sports under a trained director are encouraged, and facilities and equipment are



PHARMACOLOGY LABORATORY

available for softball, horseshoes, tennis, archery, wrestling, fencing, badminton, basketball, and ping-pong. Through special arrangements at the nearby Duncan YMCA, hand ball and swimming are available to students.

ADMISSION REQUIREMENTS

Beginning in 1960, the curriculum in pharmacy will comprise five academic years of college work leading to the degree of Bachelor of Science in Pharmacy. This is a minimum curriculum adopted by all but two accredited colleges of pharmacy in the United States.

A person seeking admission to the University of Illinois College of Pharmacy must have been graduated from an accredited secondary school, or have equivalent preparation, and have satisfactorily completed not less than thirty semester hours or equivalent of academic work, exclusive of hygiene, physical education, and military science in an accredited college, junior college, or university.

To be considered for admission the applicant should submit to the Associate Dean of Admissions and Records, 1853 West Polk Street, Chicago 12, Illinois, the following documents: (1) completed application forms, and (2) an official transcript of record in each college, junior college, or university attended.

New classes enroll only once a year and usually begin in late September.

Applications must therefore be completed not later than September 1 of the year in which the student wishes to enroll. Only when the Admissions Committee deems it advisable are applications accepted after September 1.

APPLICATIONS FROM NONRESIDENTS OF ILLINOIS

The Admissions Committee is authorized to accept up to ten per cent of each entering first-year professional class from nonresident applicants. However, only highly qualified nonresident students are considered for admission. Applicants for admission who come from foreign countries must make all arrangements in advance. They must furnish complete official credentials and certify that they are able to meet in full the cost of attending the University. Certificates in a foreign language must be accompanied by certified translations.

SELECTION OF APPLICANTS

In granting admission, the Admissions Committee considers each candidate's qualifications, including his scholastic records from the colleges and universities of recognized standing which he previously attended. Applicants from institutions other than the University of Illinois must present a college average of at least 3.0 in terms of the grading system of the University of Illinois for all work previously taken and must have a combined average of 3.0 for the last semester, or last twelve hours, whichever is applicable. Students entering the College of Pharmacy from other colleges within the University of Illinois must be eligible for continued registration in that college.

An applicant whose over-all average is 3.0 or above, but has an average below 3.0 but above 2.5 for the last semester or twelve hours, may be admitted on a probationary status upon recommendation of the Admissions Committee and the approval of the Dean of the College.

The grading system in force at the University of Illinois is based on the values of A = 5.0, B = 4.0, C = 3.0, D = 2.0, and E = 1.0 (failure).

All applicants seeking admission to the College of Pharmacy receive formal notification of the action of the Admissions Committee.

READMISSION REQUIREMENTS

A student returning to the College of Pharmacy after remaining out of the college one or more quarters is considered for readmission on the basis of the curriculum in effect at the time of his return. Action taken is for the student's best interest, and in no case is he unduly penalized for conditions beyond his control. A student dropped for poor scholarship may at the discretion of the Committee on Student Status and Promotion be readmitted on a probationary status but must prove that he can do work on a level required for graduation.

RENEWING APPLICATIONS

An applicant who has been accepted for admission but fails to enroll, and who wishes to enter in a subsequent year, must reapply for admission and must meet all requirements in force at the time of the new application.

HIGH SCHOOL REQUIREMENTS

In preparing to enter college for the study of pharmacy, certain high school courses are required to fulfill the fifteen units of acceptable school work. The completion of three years of English, one year of algebra, and one year of plane geometry are among the requirements. A fourth year of English and additional mathematics are helpful but not required. Such courses as biology, chemistry, and physics serve as a foundation for future courses in the College of Pharmacy. The study of history, social studies, and two years of either Latin or a modern foreign language is also of great value. Skill in the use of a typewriter is likewise an asset to the pharmacy student.

ADMISSION BY TRANSFER

A person who has attended a college or university of recognized standing is considered for admission on presenting (1) a transcript of his college record showing him to be in good standing at the time of his withdrawal from the institution from which he comes, and (2) an official statement of his preparatory school work. If the transcript shows that the applicant has completed college work in addition to the preprofessional requirement, with a grade of "C" or better in subjects which are required or accepted as electives in the professional curriculum, he may be granted advanced standing. In no case is a degree in pharmacy granted to a student who has not been a registered full-time student in this or another accredited college of pharmacy for at least three academic years.

DEPOSIT

Each applicant who is assigned a place in any class in the College of Pharmacy is required to make a deposit of \$15.00 within two weeks of the date of notification that he will be admitted. This deposit is applied on fees assessed against him at the time of registration. Failure to pay this deposit within the specified time subjects the applicant to forfeiture of his place. No deposit is returned unless the applicant notifies the Associate Dean of Admissions and Records, at least thirty days before the time for registration, that he will not be able to enter.

PHYSICAL REQUIREMENTS

Evidence of satisfactory health is desirable before enrollment, and a certificate attesting to the applicant's health is requested from the Health Service of the last institution attended or from the applicant's private physician.

Each applicant is advised to contact a physician in regard to his health, the possible need for glasses or correction of other defects, and to insure that immunizations for smallpox, tetanus, and poliomyelitis are up to date.

Each student accepted for admission is required to report to the University Health Service for a medical examination, laboratory tests, and immunizations. If immunizations are done beforehand by a private physician and the results in writing are brought in, much time can be saved.

Appointments for the physical examination by the Health Service can be made by telephoning MOnroe 6-3900, extension 8181, or in person at Room 130, Research and Educational Hospitals, 840 South Wood Street, Chicago 12. These appointments are usually made for the month preceding registration. Enrollment in the College of Pharmacy is not continued without approval from the Health Service.

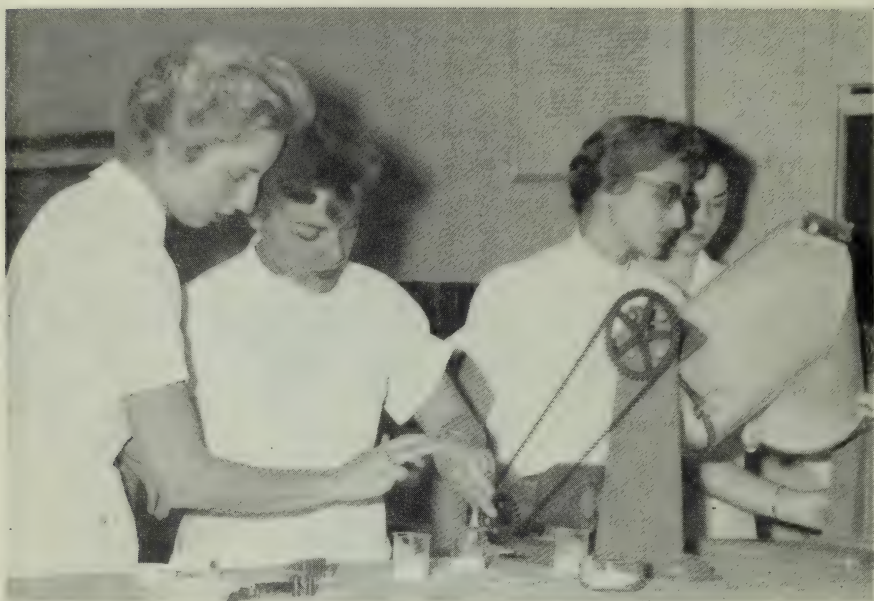
GRADUATION REQUIREMENTS

A candidate for the degree of Bachelor of Science in Pharmacy must meet the following general requirements: (1) be of good moral character, (2) pay all indebtedness to the University, (3) obtain passing grades in all courses of the required curriculum, and (4) have completed the four-year professional curriculum of 189 quarter hours with a minimum average of "C," equivalent to a minimum grade-point average of 3.0 including grades in courses transferred from other institutions. He must also have an average of not less than 3.0 in work done at the University of Illinois. All grades in those courses which count toward graduation are used in computing the graduation average. Where a course has been repeated, both the original and subsequent grades are included in the average if the course is to be counted toward graduation. Either the first three years of work, or the last year, must be done in the College of Pharmacy.

STATE REGISTRATION OF PHARMACISTS

The Pharmacy Practice Act of the state of Illinois in effect January 1, 1956, provides that:

"Any person shall be entitled to registration as a registered pharmacist who is not less than twenty-one (21) years of age, of good moral character and temperate habits, a graduate of an accredited high school or whose education is equivalent thereto in the discretion of the Board, a graduate of a course of at least four academic years with a pharmaceutical degree from a school or college of pharmacy or department of pharmacy of a university recognized and approved by the Department of Registration and Education, and who has had at least one (1) year of pharmacy apprenticeship experience from and after the successful completion of at least one (1) academic



COSMETIC PREPARATION IN THE PHARMACY CLASS

year of attendance in a school or college of pharmacy or department of pharmacy of a university recognized and approved by the Department, in assisting in the practice of pharmacy under a registered pharmacist in a drug store or pharmacy in this State or in any other state, or in a drug store or pharmacy in a hospital, or similar institution conducted by the Army, Navy, Air Corps, Marine Corps, Coast Guard, Veteran's Administration, or Public Health Service of the United States, or by the State Militia or National Guard of any state thereof, where the practice of pharmacy, including the compounding of prescriptions, is carried on, and who shall pass a satisfactory examination prescribed by the Board of Pharmacy.

"No person shall be registered as a registered pharmacist who is not a citizen of the United States, or who has not made a declaration of intention to become a citizen, or who, having made such declaration of intention, has not filed a petition for naturalization within thirty days after becoming eligible to do so, and no certificate of registration as a registered pharmacist shall be continued or renewed for any person, who having made such declaration of intention has not filed a petition for naturalization within thirty days after becoming eligible to do so.

"The Department of Registration and Education may in its discretion register as a registered pharmacist, without examination, any person who is duly registered as a pharmacist by examination in some other state,

provided that the said person shall produce evidence satisfactory to the Board of having had the required secondary and professional education and training, and is possessed of good moral character and temperate habits, as required of applicants for registration as pharmacists under the provisions of this Act; provided, that persons of good moral character and temperate habits who have become registered as pharmacists by examination in other states prior to the effective date of this Act, shall be required to satisfy only the requirements for registration as pharmacists which existed in this State at the time they became registered as pharmacists in such other states, and provided also, that the state in which each said person is registered shall, under like conditions, grant reciprocal registration as a registered pharmacist, without examination, to a registered pharmacist duly registered as such by examination in this State. The person who shall be registered as a registered pharmacist, by reciprocity, under the provisions of this subsection, shall have the authority to practice the profession of pharmacy in this State, the same as a registered pharmacist who shall be registered, by examination, under the provisions of this Act."

The Pharmacy Practice Act provides further that:

"Any person shall be entitled to registration as a registered pharmacy apprentice who is of the age of sixteen (16) years or over, of good moral character and temperate habits, employed in a drug store or pharmacy in this State under the personal supervision of a registered pharmacist in good standing in this State, a graduate from an accredited high school or comparable school or educational institution recognized by the Department, and who shall have filed a written application therefor, on a form to be prescribed and furnished by the Department for that purpose, accompanied by a fee of Two (2) dollars. . . . The pharmacy apprenticeship experience required of any applicant for registration as a registered pharmacist . . . shall be computed from and after the successful completion of at least one (1) academic year of attendance in a school or college of pharmacy or department of pharmacy of a university recognized and approved by the Department.

"The year of the required pharmacy apprenticeship experience under this Act shall consist predominantly in assisting registered pharmacists under their direct personal supervision in the practice of pharmacy, including, but not limited to, the compounding and dispensing of prescriptions, the preparing of pharmaceutical preparations, the keeping of records and the making of reports required under local, state and federal laws relating to the operation of a pharmacy and to the practice of pharmacy, and such other duties as may be recommended by the Board of Pharmacy and approved by the Department of Registration and Education."

Questions relative to the apprenticeship training requirements and other qualifications for examination and licensure as a pharmacist should be directed to the Department of Registration and Education, State of Illinois, Springfield, Illinois.

STUDENT HOUSING

Excellent living accommodations in the new Residence Hall are available to all unmarried students in the Chicago Professional Colleges. This residence unit is conveniently located to all campus facilities and is provided with the finest furnishings and equipment.

The Residence Hall has 209 student rooms available. These rooms are 11 feet 7½ inches by 16 feet 10 inches. Each room is equipped with two single beds and mattresses, bedding, two chests with mirrors, two desks, two study

STUDENT RESIDENCE HALL



chairs, a lounge chair, study lamps, and waste baskets. Each resident has an individual closet 3 feet by 3 feet.

Each floor of the building has a central washroom and shower room. Trunk storage space is available on the first floor of the building. The laundry room is equipped with automatic washers and driers. The building has two automatic elevators.

Residence hall cost includes room and board (twenty meals per week) and is payable in full or quarterly in advance. Accommodations are available for three quarters at the rate of \$860.00 per student.

For additional information about housing, write to the Director of Housing, 818 South Wolcott Street, Chicago 12, Illinois.

FEES AND EXPENSES

A schedule of fees for regular full-time students in the College of Pharmacy is listed below. One-third of each year's fees is payable on registration for each quarter. The Board of Trustees of the University reserves the right to change the fees at any time through publication in the annual announcements.

	Tuition	Building and Laboratory Service Fee	Union Building Service Charge	Total Per Year
FIRST YEAR				
Illinois	\$150.00	\$ 66.00	\$10.50	\$226.50
Non-Illinois	501.00	84.00	10.50	595.50
SECOND YEAR				
Illinois	150.00	96.00	10.50	256.50
Non-Illinois	501.00	114.00	10.50	625.50
THIRD YEAR				
Illinois	150.00	96.00	10.50	256.50
Non-Illinois	501.00	114.00	10.50	625.50
FOURTH YEAR				
Illinois	150.00	102.00	10.50	262.50
Non-Illinois	501.00	120.00	10.50	631.50

Students registered for twelve credit hours or less pay tuition fees at the rate of \$4.50 a credit hour if residents of Illinois, or \$15.00 a credit hour if nonresidents. For thirteen credit hours or more, the full tuition fees are charged. Students taking twelve quarter hours or less also pay \$3.00 per quarter hour of credit as a building and laboratory service fee if residents of Illinois, or \$3.50 per quarter hour of credit if nonresidents. In no case is a student assessed a greater fee than is paid by full-time students. All part-time students pay the full Union Building Service Charge.

Late Registration Fee. Former students who register after the regular registration days in any quarter pay a late registration fee of \$5.00.

Special Examination Fee. For any special examination given in a course which has been failed, the fee is \$10.00.

Change of Program Fee. A fee of \$1.00 is charged for every change slip issued at the request of the student.

Transcript Fee. Each student who has paid all his University fees is entitled to receive, without charge, one transcript of his record. For each additional transcript the fee is \$1.00.

Listener's Fee. For each credit hour, persons not connected with the University who are permitted to attend classes as listeners pay \$10.00 if residents of Illinois, \$40.00 if nonresidents.

Fees for Unclassified Students. Fees charged unclassified students are based on the amount of work taken.

SERVICE CHARGE FOR DEFERRED FEES

In cases of necessity, students may arrange for deferment of fees by calling at the Business Office, 187 East Dentistry-Medicine-Pharmacy Building. A service charge of ten per cent of the amount of fees deferred, not to exceed \$2.00 a quarter, is charged for the privilege of deferring fees, and this charge must be paid on the day of registration. If deferred fees are paid in full within ten days after registration, the service charge is refunded, except that a minimum service charge of \$1.00 is retained by the University in all cases. The service charge, not less than one-third of the current quarter's fees, and all fees and charges from previous terms must be paid on the day of registration. Failure to meet payments of fees within the time limit cancels at once the privilege of attending classes. Registration is not completed until fees are paid in full, and no credit is recorded for class work completed unless all fees and other charges have been paid in full. Deferred payment of fees delays the completion of registration, but extends the privilege of attending classes pending payment of fees in full as described above.

REFUNDS

If a student withdraws during the first ten days of a quarter, his total fees are refunded. If he withdraws after ten days attendance but before one-half of the quarter has elapsed, a refund of one-half of his total fees is made. No refund is made if the student withdraws after one-half of the quarter's work has elapsed.

EXPENSES

From \$110.00 to \$150.00 a month may be regarded as adequate for the ordinary living expenses of a student in Chicago, exclusive of books, cloth-

ing, railroad fare, and miscellaneous needs. The initial expense for books and materials for the first year averages approximately \$100.00. Some of the books purchased in the first year are used throughout the four years thereby reducing the expenses for upperclassmen.

SCHOLARSHIPS, HONORS, AND PRIZES

SCHOLARSHIPS AWARDED BY COUNTY COMPETITIVE EXAMINATION

County Scholarships. One scholarship is awarded in each county to the high school graduate who passes with the highest average a competitive examination given on the last Saturday in March under the supervision of the County Superintendent of Schools. The grade must be at least 70 per cent. Additional scholarships are awarded in counties with populations in excess of 50,000. All candidates write an examination in English composition and rhetoric and in two of the following fields: mathematics, social studies, natural science. A candidate who has had college work is not eligible.

The Board of Trustees has authorized winners in the above examinations to defer the beginning date of the scholarship in cases where the recipient will not graduate from high school until February next following the March examination. Such candidates must register in the University of Illinois in the second semester of the school year immediately following the examination.

A county scholarship exempts the holder from the tuition fees in any course in the University for four years.

Scholarships for Children of Veterans of World War I, World War II, and the Korean Conflict. By act of the legislature (1947), one scholarship is available in each county each year for a child of a veteran of World War I, one each year for a child of a veteran of World War II, and one each year for a child of a veteran of the Korean conflict. This scholarship is awarded to the candidate who receives the highest grade in the competitive examination held on the last Saturday in March each year as described in the paragraph on the County Scholarships, except that preference is given to children of veterans who are deceased or disabled. It exempts the holder from the tuition fees for four years in any department of the University. Proof of service of the war veteran and of his relationship to the candidate is required.

SCHOLARSHIPS AWARDED FOR MILITARY SERVICE

Military Scholarships. Any person who served in the Army, Navy, Air Force, or Marine Corps of the United States during World War I, or sometime between September 16, 1940, and the termination of the National

Emergency proclaimed December 16, 1950, and who has been honorably discharged, is entitled to a scholarship in the University of Illinois if he possesses the necessary entrance requirements and if he was a resident of the state of Illinois or a student in the University of Illinois at the time of enlistment. This scholarship exempts the holder from the tuition fees in any course in the University for four years.

“A scholarship shall not be awarded hereunder, or, if awarded, the benefits shall not be extended, to any person in respect to any period within the scholarship term during which he is receiving financial assistance for educational purposes from the federal government.”

SCHOLARSHIPS AWARDED ON NOMINATION OF MEMBERS OF THE GENERAL ASSEMBLY

Each member of the General Assembly may nominate annually one student from his district for a scholarship in the University. Provision is made for substitute appointments in case the original nominee fails to qualify or discontinues his course. This scholarship exempts the holder from the payment of the tuition fees in any course in the University for a period of four years.

SCHOLARSHIPS AWARDED BY THE ILLINOIS STATE SCHOLARSHIP COMMISSION

The number of first-year scholarships available each year are two for residents of each senatorial district, two for residents of each representative district, and such additional number as appropriated funds permit. To be eligible for a first-year scholarship, each applicant (1) must be a resident of Illinois; (2) must be of good moral character; (3) must have successfully completed the program of instruction at an approved high school, or currently be enrolled at such a school and engaged in a program which will be completed by the end of the academic year; and in either event his scholarship must place him in the upper half of his graduating class; (4) must not have engaged in any university, college, normal school, junior college, or other advanced training subsequent to his graduation from high school; (5) must be an individual who, because of financial considerations, would be deterred from beginning or completing his education; and (6) must have superior capacity to profit by a higher education. In each fiscal year, competitive examinations are conducted among those eligible for first-year scholarships. Each scholarship is renewable annually for a total of three academic years. The amount of each first-year and each renewal scholarship shall be the smallest of the following amounts: (1) \$600.00; or (2) the amount which equals the annual tuition and other necessary fees required by the institution at which the scholarship is to be used; or (3) such amount as the Commission finds to be appropriate in view of the applicant's financial resources. Scholarships may be used in any qualified

institution of higher learning. Further information is available in high school offices.

SCHOLARSHIPS AWARDED BY THE UNIVERSITY COMMITTEE ON SPECIAL UNDERGRADUATE SCHOLARSHIPS

There are several scholarships which are good in any college within the University and which are awarded by the University Committee on Special Undergraduate Scholarships. Application should be made to the Dean of Admissions and Records, University of Illinois, Urbana, Illinois, as soon as possible after March 1 of each year.

SCHOLARSHIPS AWARDED BY THE COLLEGE OF PHARMACY COMMITTEE ON AWARDS AND SCHOLARSHIPS

This Committee has at its disposal a number of scholarships which may be awarded on the basis of need. Applications should be addressed to the Dean of the College of Pharmacy.

SCHOLARSHIPS AWARDED BY PHARMACEUTICAL ORGANIZATIONS

The following pharmaceutical organizations or commercial establishments have made available a number of scholarships which are awarded primarily upon the scholastic ability and the need of the individual student:

American Foundation for Pharmaceutical Education

Charles P. Bondy Memorial Fund for Pharmacy

Douglas Pharmaceutical Council

Ford Hopkins Drug Company

Galler Drug Company

Goldenrod Ice Cream Company

Humiston-Keeling Drug Company

Illinois Rexall Clubs

Lag Drug Company

Oscor Drug Company

Sargent's Drug Stores

Stineway Drug Company

E. M. Thomas and J. M. Thomas

Women's Auxiliary of the Research and Educational Hospitals

Louis Zahn Drug Company

HONORS

Graduation with Honors. A student who complies with the requirements for graduation, and who attains in all work presented for the degree the average grade specified below, may be recommended by the University Senate for the honors stated: for an average grade of not less than 4.35, graduation with honors; for an average grade of not less than 4.75, gradu-



REGISTRATION FOR THE ANNUAL OPEN HOUSE

ation with high honors. The honors awarded are noted on the diploma and in the Commencement program.

Honors Day Convocation. Under the supervision of the College of Pharmacy Committee on Awards and Scholarships, an Honors Day Convocation is held annually. Certificates indicating attainment of honors are awarded to members of all four classes who have maintained an average grade of not less than 4.35, and certificates indicating attainment of high honors are awarded to members of all four classes who have maintained an average grade of not less than 4.75. These averages are determined at the beginning of the third quarter of each year. In addition, the prizes indicated in the following section are awarded at this Convocation.

PRIZES

Borden Scholarship Award. The Borden Company, through the Borden Company Foundation, Inc., has established in the College of Pharmacy the Borden Scholarship Award. This award consists of a \$300.00 scholarship, which is given annually to the junior student who has the highest scholastic average upon entering the third quarter of the junior year.

James E. Davis Award. Delta Kappa Sigma Chapter of Rho Pi Phi,

professional pharmacy fraternity, sponsors an annual award consisting of a \$25.00 United States Savings Bond. This prize is given to a senior student who best exhibits the following attributes: service, leadership, and character. The recipient must also have an average grade of 3.75 in all of the required courses upon entering the third quarter of the senior year.

Elich Prize. Mrs. Herman Elich, in memory of Mr. Herman Elich '96, who as an alumnus of the College of Pharmacy originated the Elich Prize, continues to offer annually a prize of \$25.00 to the senior student with the highest scholastic average in pharmacognosy.

Ethel J. Heath Scholarship Key. Gamma Chapter of Lambda Kappa Sigma offers annually an honor key to the graduating sorority member having the highest scholastic average upon entering the third quarter of the senior year. The recipient must have a grade average of at least 4.0 to qualify for the award.

Illinois Pharmaceutical Association Women's Auxiliary Award. The Women's Auxiliary of the Illinois Pharmaceutical Association offers annually an award of \$50.00 to the outstanding graduating woman student of the College of Pharmacy. This award is based upon character, leadership, and scholastic achievement in pharmacy.

Illinois Pharmaceutical Travelers Association Prize. The Illinois Pharmaceutical Travelers Association sponsors an annual award of \$100.00 for a deserving graduating male student who has sustained a grade-point average of 4.0 or better in pharmacy upon entering the third quarter of the senior year. The basis for choosing the recipient is character, leadership, and scholastic achievement.

Rho Chi Prize. Phi Chapter of Rho Chi, pharmaceutical honor society, awards annually an embossed copy of the United States Dispensatory as a prize to the sophomore student who has attained the highest scholastic average upon entering the third quarter of the sophomore year.

Van Schaack Prize. By the will of Cornelius P. Van Schaack, the College of Pharmacy received in 1937 the sum of \$1,000.00 to be held in trust by the University. The annual income from this bequest is used for the purchase of a gold medal, known as the C. P. Van Schaack Award, which is presented to the senior student who has the highest scholastic average in chemistry upon entering the third quarter of the senior year.

From time to time other prizes are made available and are also awarded at the annual Honors Day Convocation.

LOAN FUNDS

Several loan funds have been established for the benefit of worthy students who have satisfactorily completed at least one year of work in the Uni-

versity and are in need of financial aid in order to finish their courses. Information concerning these funds and the regulations governing loans may be obtained from the office of the Dean of the College. The loans described here are for the exclusive use of students of pharmacy.

Ebert Loan Fund. In 1907, following the death of Mr. Albert E. Ebert who had taken an active part in the development of the College of Pharmacy, the Alumni Association of the College established a fund in memory of Mr. Ebert. Later contributions were made by the Women's Organization of the Chicago Retail Druggists' Association to establish a loan fund. In 1931 the funds were combined into one known as the Albert E. Ebert Loan Fund. The Class of 1932 also contributed to this fund. Loans are made available to deserving students.

Goldenrod Ice Cream Company Loan Fund. Established in 1943, through a gift from the Goldenrod Ice Cream Company of Chicago, this fund provides for loans to students.

Goldstine Emergency Loan Fund. This fund for emergency loans to students was established by the Board of Trustees in 1933. The name was changed in 1943 when the fund was increased by a gift from Mr. Harry Goldstine.

Student Council Emergency Loan Fund. A sum of money available for emergency loans to students in need of financial aid is on deposit with the Chicago Organizational Fund.

Sidney A. Roth Memorial Fund. The Alumni Chapter of the Delta Kappa Sigma Chapter of Rho Pi Phi fraternity has made available an amount equivalent to the tuition and fees for one quarter to students needing financial assistance. The loan is made upon the recommendation of the Dean of the College of Pharmacy.

ORGANIZATIONS

ALUMNI ASSOCIATION OF THE COLLEGE OF PHARMACY

President: RALPH CARPENTER '30, 150 South Michigan Avenue, Villa Park, Illinois

Vice-President: HERBERT A. BERRY '28, 31 Center Street, Hinsdale, Illinois

Treasurer: GEORGE L. WEBSTER '22, 1000 Forest Avenue, Wilmette, Illinois

Secretary: SAMUEL SHKOLNIK '25, 111 West Washington Street, Chicago 2, Illinois

Trustees (in addition to the above officers):

MEYER C. BALIN '25, 3745 West Eastwood Avenue, Chicago 25, Illinois

CLIFFORD GREEN '28, 1223 West Moss Avenue, Peoria 5, Illinois



INFORMATION BOOTH OF THE STUDENT BRANCH OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

JOSEPH A. SANDA '32, 8049 Country Club Lane, North Riverside, Illinois

EDWARD H. DEVINE '34, 1915 Orrington Avenue, Evanston, Illinois

PAUL S. SANG '26, 6835 Paxton Avenue, Chicago 49, Illinois

Representative (on General Alumni Board):

SAMUEL SHKOLNIK '25, 111 West Washington Street, Chicago 2, Illinois

STUDENT BRANCH OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

The Student Branch of the American Pharmaceutical Association is the only organization which offers professional membership to all students in the College of Pharmacy. The organization maintains an active professional program and cooperates with the Chicago Branch of the A. Ph. A. in the development of the annual banquet of that organization. Approximately 70 per cent of the students enrolled in the College of Pharmacy are active members of the association. Seniors in good standing in the Student Branch at the time of their graduation are accorded full membership in the American Pharmaceutical Association until January 1 of the succeeding year.

RHO CHI

Phi Chapter of Rho Chi, national pharmaceutical honor society organized to promote the advancement of the pharmaceutical sciences, is located at

the College of Pharmacy. Students who have completed 115 quarter hours of work of the professional curriculum with an average of at least 4.0 are eligible for membership.

OTHER PHARMACEUTICAL ASSOCIATIONS

The Chicago Branch of the American Pharmaceutical Association, composed of representative pharmacists of Chicago and vicinity, holds its monthly meetings at the College of Pharmacy. Students of the College of Pharmacy are invited to attend.

The College of Pharmacy holds membership in the American Association of Colleges of Pharmacy. The object of the association is to promote the interests of pharmaceutical education, and all institutions holding membership must maintain certain minimum requirements for entrance and graduation. Through the influence of this association, high standards of education are maintained.

PLAN OF INSTRUCTION

Pharmacy is a health profession concerned with the selection, preservation, standardization, preparation, and distribution of drugs and medicinals. It is based on two groups of fundamental sciences, the physical and the biological. Advancements in these sciences have contributed so much to the health professions that it is imperative for the pharmacist to be thoroughly trained in the fundamental sciences as well as in the applied and professional subjects. Accordingly, ample time in the curriculum of the College of Pharmacy is devoted to the physical and biological sciences and other subjects necessary to the practice of pharmacy.

As there are several allied and related fields to which individuals with a pharmaceutical training are particularly adaptable, each student is permitted to elect specialized courses during his four years.

The College of Pharmacy offers the last four professional years of a five-year curriculum leading to the degree of Bachelor of Science in Pharmacy, as summarized on pages 28 and 29. The courses included in the basic curriculum are required of all students. Elective courses for each year are determined through consultation with a faculty counselor.

SIGNIFICANCE OF GRADES OF THE COLLEGE OF PHARMACY

Grades given for work in the College of Pharmacy are as follows: A, excellent; B, good; C, fair; D, poor (but passing); E, failure. Numerical equivalents of these grades on the basis of which averages are made are as follows: each hour of A grade carries 5 grade points; each hour of B grade, 4 grade points; each hour of C grade, 3 grade points; each hour of D grade, 2 grade points; each hour of E grade, 1 grade point.

In addition to the above grades, the following symbols are used. The symbol W indicates withdrawal from the course with permission of the Dean. The grade of E may be given to students withdrawn from the course who were doing unsatisfactory work at the time of withdrawal. Withdrawal because of military service is subject to special regulations. If a student is absent from the final examination without excuse acceptable to the Dean, the symbol Ab is used and counts as a failure. If a student is absent from the final examination with excuse acceptable to the Dean, the symbol Ex is used. The mark of Ex entitles the student to an examination later without fee, but becomes a failure, unless removed at the first opportunity approved by the Dean. The symbol Dr indicates that the student was dropped for academic irregularity and counts as a failure.

In order to qualify for graduation, a student must have completed successfully a minimum of 189 quarter hours of the professional curriculum and earned a minimum of 567 grade points. A minimum grade-point average of 3.0 or C, including work taken elsewhere and accepted for advanced credit, is required for graduation. An average of not less than 3.0 must be attained in work done at the University of Illinois. Failures of required courses in the curriculum must be removed by repeating successfully those courses in which a grade of E is obtained. Where a course is repeated, both the original and subsequent grades are included in the average.

Probationary Status. Any student who failed to attain a 3.0 average in the work for which he receives a grade at the end of a quarter is placed on probation. A student can remove himself from probationary status only upon earning a 3.0 average during his next period of registration. A student who is placed on probation may be required to limit his schedule until probationary status is removed.

Refusal of Further Registration Because of Poor Scholarship. A student who fails to remove himself from probationary status during his next period of registration may be dropped for poor scholarship. A student who receives either unsatisfactory or failing grades in a substantial portion of the work for which he receives a grade at the end of a quarter may be dropped for poor scholarship. A student who receives failing grades in one-half or more of the work for which he receives a grade at the end of a quarter is dropped for poor scholarship. A student who is refused further registration because of poor scholarship may petition the Committee on Student Status and Promotion for readmission. Reconsideration of the case of a student dropped for poor scholarship does not guarantee readmission. Except for unusual circumstances, a student may be reinstated only once.

Promotion to the Next Higher Class. Any student who, at the end of the academic year, has completed substantially all of the normal program, and

has a cumulative grade-point average of 3.0 or better, is promoted to the next higher class. A student who, at the end of the academic year, has a cumulative grade-point average of less than 3.0 may be promoted to the next higher class only with the approval of the Committee on Student Status and Promotion. If a student's cumulative grade-point average is substantially below 3.0, promotion to the next higher class may be withheld.

SUMMARY OF CURRICULUM IN PHARMACY

	FIRST YEAR										Total Cr.
	First Quarter			Second Quarter			Third Quarter				
	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.		
Chemistry 111, 112, 113.....	4	4	5	4	4	5	4	4	5	15	
Mathematics 111.....	4	0	4	..	..	..	..	..	..	4
Pharmacy 110, 113.....	1	0	0	..	..	..	3	3	4	4
Pharmacy Administration 112, 113.....	..	..	..	4	0	4	4	0	4	8
Physical Education 101, 102, 103....	3	0	0	3	0	0	3	0	0	0	
Physics 111, 112, 113.....	3	3	4	3	3	4	3	3	4	12	
	15	7	13	14	7	13	17	10	17	43	
Electives.....	3 - 4			3 - 4						49-51	

	SECOND YEAR											
	First Quarter			Second Quarter			Third Quarter			Total		
	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.	Cr.		
Chemistry 121, 122, 123	2	8	4	3	3	4	4	4	5	13		
Pharmacy 121, 122, 123	3	3	4	3	3	4	2	6	4	12		
Pharmacy Administration 121	4	0	4	..	..	..	..	..	..	4	
Zoology 121, 122, 123	2	6	4	2	6	4	2	6	4	12		
	11	17	16	8	12	12	8	16	13	41		
Electives				3 - 4			3 - 4			46-48		

	THIRD YEAR										
	First Quarter			Second Quarter			Third Quarter			Total Cr.	
	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.		
Chemistry 232, 342.....	4	0	4	2	6	4	..	..	..	8
Microbiology 233.....	..	..	..	..	..	..	3	4	4	4
Pharmacognosy 231, 232, 233.....	3	3	4	3	3	4	3	3	4	12	
Pharmacy 231, 232, 233.....	3	3	4	3	3	4	2	3	3	11	
Pharmacy 234.....	..	..	..	..	..	..	1	0	1	1
Physiology 232, 233.....	..	..	..	3	3	4	3	3	4	8
	10	6	12	11	15	16	12	13	16	44	
Electives.....	3 - 4									47-48	

	FOURTH YEAR											
	First Quarter			Second Quarter			Third Quarter			Total		
	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.	Cr.		
Pharmacology 241, 242, 243.....	3	4	4	3	4	4	3	4	4	12		
Pharmacology 244.....	..	..	..	2	0	2	..	..	..	2	
Pharmacy 241, 242, 243.....	3	3	4	3	3	4	3	3	4	12		
Pharmacy Administration 243.....	..	..	..	..	..	..	4	0	4	4	
Zoology 341.....	3	3	4	..	..	..	..	..	..	4	
	9	10	12	8	7	10	10	7	12	34		
Electives	3 - 4			6 - 8			3 - 4			46-50		

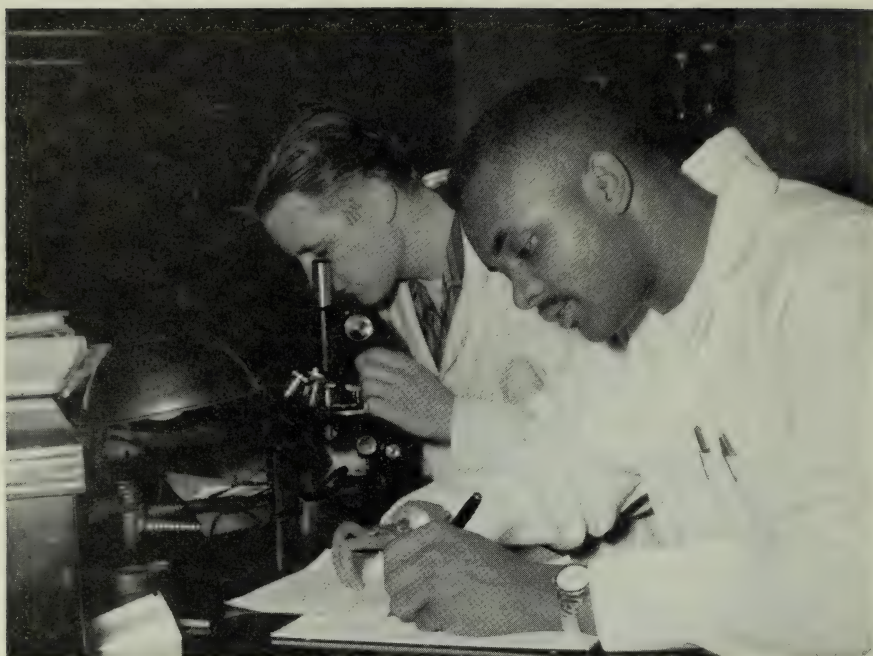
Basic curriculum 162 hours; 189 hours required for graduation.

ELECTIVES AVAILABLE TO BOTH UPPER AND LOWER CLASSMEN

	Didactic	Laboratory	Credit Hours
Chemistry 335.....	3	0	3
Chemistry 336.....	3	4	4
English 110.....	3	0	3
English 115.....	3	0	3
English 205.....	3	0	3
English 220.....	3	0	3
English 225.....	3	0	3
English 230.....	3	0	3
English 235.....	3	0	3
Mathematics 115.....	4	0	4
Mathematics 120.....	4	0	4
Physics 315.....	3	0	3
Psychology 126.....	3	0	3
Psychology 130.....	3	0	3
Sociology 125.....	3	0	3
Zoology 305.....	3	3	4

ELECTIVES AVAILABLE ONLY TO UPPER CLASSMEN

	Didactic	Laboratory	Credit Hours
Chemistry 245.....	..	..	(1-4)
Chemistry 301.....	2	8	4
Chemistry 343.....	2	6	4
Chemistry 345.....	4	0	4
Chemistry 346.....	2	8	4
Chemistry 349.....	2	6	4
Chemistry 350.....	2	8	4
Pharmacognosy 245.....	..	..	(1-4)
Pharmacognosy 301.....	3	3	4
Pharmacognosy 302.....	3	3(6)	4(5)
Pharmacognosy 303.....	2	6(9)	4(5)
Pharmacognosy 306.....	2	3	3
Pharmacognosy 314.....	1	6	3
Pharmacognosy 316.....	3	0	3
Pharmacology 245.....	..	..	(1-4)
Pharmacology 250.....	3	0	3
Pharmacology 310.....	2	6	4
Pharmacy 245.....	..	..	(1-4)
Pharmacy 250.....	1	6	3
Pharmacy 255.....	2	4	3
Pharmacy 260.....	2	8	4
Pharmacy 265.....	2	4	3
Pharmacy 275.....	1	6	3
Pharmacy 280.....	2	0	3
Pharmacy 295.....	1	0	1
Pharmacy 305.....	3	0	3
Pharmacy 310.....	2	4	3
Pharmacy Administration 235.....	4	0	4
Pharmacy Administration 240.....	4	0	4
Pharmacy Administration 245.....	..	..	(1-4)
Pharmacy Administration 255.....	4	0	4
Physics 325.....	2	4	3
Zoology 215.....	3	3	4
Zoology 245.....	..	..	(1-4)
Zoology 295.....	1	0	1
Zoology 310.....	3	3	4
Zoology 315.....	3	3	4



LABORATORY EXERCISE IN HISTOLOGY

COURSES OF INSTRUCTION

The following list of subjects is arranged by departments. The description of each course includes a statement of the number of lectures, recitations, or laboratory periods each week (each period being fifty minutes unless otherwise specified). The number of didactic periods and laboratory hours are shown in the summary of the curriculum, which also shows the credit in quarter hours. In the description of each course the quarter during which it is given is indicated by a Roman numeral, "I" for the first quarter, "II" for the second quarter, and "III" for the third quarter, followed by an Arabic numeral in parentheses indicating the number of credit hours. For example, "I, (3)" means that the course is given in the first quarter for three hours of credit. The expression "I, II, or III" is used if the course may be taken in any quarter.

CHEMISTRY

111, 112, 113. Organic Chemistry. This course provides a study of the nomenclature, occurrence, uses, physical properties, synthesis, and reactions of organic compounds. The treatment is based on the functional groups of the acyclic, alicyclic, aromatic, and heterocyclic compounds, and includes a consideration of polyfunctional compounds, fats, peptides, carbohydrates, and

macromolecules. Concepts of stereoisomerism, resonance, reaction mechanisms, and organic theory are used to illustrate the course material. Three lectures, one recitation, and one four-hour laboratory period each week. I, (5), II, (5) and III, (5). These courses must be taken in sequence. Prerequisite: Inorganic chemistry, qualitative analysis, college algebra, and trigonometry.

- 121. Quantitative Analysis.** The principles, theories, and techniques of volumetric analysis as related to acidimetry and alkalimetry. Oxidation-reduction and precipitation reactions are discussed. Selected laboratory exercises illustrate the principles and theories involved in each type of reaction. Two lectures and two four-hour laboratory periods each week. I, (4). Prerequisite: Mathematics 111; inorganic chemistry and qualitative analysis.
- 122. Introduction to Physical Chemistry.** This introductory course outlines the scope of physical chemistry and its relationships and applications to other fields of science. It considers the physicochemical behavior of gases, liquids, and solutions, with special reference to biological phenomena. Physiological aspects of oxidation-reduction, osmotic pressure, electrolytic dissociation, and the properties of colloids are discussed. Three lectures or recitations and one three-hour laboratory period each week. II, (4). Prerequisite: Chemistry 113, 121; Physics 111, 112, 113; Mathematics 111.
- 123. Biological Chemistry.** General biochemistry presented at an introductory level considers the chemistry of living cells and tissues including the metabolic changes taking place in these labile systems. Replacement reactions, energetics, enzymes, vitamins, and hormones are discussed. Four lectures and one four-hour laboratory period each week. III, (4). Prerequisite: Chemistry 122.
- 232. Drug Assaying.** Basic scientific principles are applied to the standardization and analysis of drugs and pharmaceutical products. Applications of the newer analytical techniques of chromatography, colorimetry, spectrophotometry, and nonaqueous titrations to the control of pharmaceutical products are presented. Two lectures and two three-hour laboratory periods each week. II, (4). Prerequisite: Chemistry 113, 121.
- 245. Senior Research in Chemistry.** The student investigates, under the direction of one or more faculty members, a chemical problem of limited scope. The investigation may include experimentation and library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.
- 301. Systematic Identification of Organic Compounds.** The physical and chemical properties, classification, reactions, and methods of synthesis of typical derivatives are employed in the identification of organic compounds. Special conferences and a minimum of eight hours of laboratory work each week. II or III, (4). Prerequisite: Chemistry 113, 122.

- 335, 336. Physical Chemistry.** Atomic and molecular structure, chemical thermodynamics, phase equilibria, chemical equilibria, surface chemistry, electrochemistry, and chemical kinetics are discussed in this two-quarter course. Three class meetings in Chemistry 335 each week and three class meetings and one four-hour laboratory in Chemistry 336 each week. Chemistry 335, III, (3); Chemistry 336, I, (4). Prerequisite: Chemistry 113, 121, 122; Physics 112, 113; Mathematics 115.
- 342. Chemistry of Medicinals.** Modern synthetic drugs are studied with regard to their nomenclature, methods of synthesis, and relation to other drugs having similar therapeutic, physical, and chemical properties. Four lectures each week. I, (4). Prerequisite: Chemistry 113.
- 343. Chemical Toxicology.** The common sources, chemistry, methods of isolation, and identification of toxic agents commonly encountered as industrial hazards or as the cause of accidental or purposeful poisoning are discussed. Two lectures and two three-hour laboratory periods each week. III, (4). Prerequisite: Chemistry 113; Pharmacology 244.
- 345. Chemistry of Natural Products.** The occurrence, origin, biological significance, nomenclature, physical and chemical properties, methods of isolation, and pharmaceutical uses of important natural substances are studied. Particular attention is given to the sugars, sugar alcohols, polyhydroxyacids, gums, mucilages, pectins, glycosides, fats, waxes, steroids, hormones, alkaloids, vitamins, enzymes, essential oils, and resins. Four lectures each week. I or II, (4). Prerequisite: Chemistry 113, 123.
- 346. Organic Chemistry.** This course is a continuation of the study of organic chemistry with practice in and emphasis on the application of general and special reactions to the synthesis of drugs and chemicals. Two lectures and two four-hour laboratory periods each week. I or II, (4). Prerequisite: Chemistry 113, 122.
- 349. Pharmaceutical Assaying.** Chemical and physical methods of analyzing raw materials and dosage forms of medications are discussed. The principles of sampling and the methods of quantitatively separating active compounds from inactive diluent or vehicles are given special considerations. Two class meetings and two three-hour laboratory periods each week. II or III, (4). Prerequisite: Chemistry 232.
- 350. Instrumental Analysis.** The principles, methods, and techniques of analytical chemistry using modern electrical and electronic instruments are studied. Two lectures and two four-hour laboratory periods each week. II, (4). Prerequisite: Chemistry 121, 122.

ENGLISH

- 110. Introduction to Poetry and the Drama.** Selected dramas and various types of poetry are studied and considered as art forms. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric.

- 115. Introduction to Prose Fiction.** The serious novel and short story are introduced, and representative examples in both categories are read and discussed. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric.
- 205. Report Writing.** This course provides an opportunity to study the writing of reports based on research, field surveys, and other data. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric.
- 220. Survey of English Literature since 1800.** The writings of some of the principal figures of British literature in the nineteenth and twentieth centuries are examined. Reading assignments include the works of such authors as Wordsworth, Byron, Carlyle, Tennyson, Browning, Huxley, Hardy, Thackeray, and Shaw. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric. English 115 is preferred but not required.
- 225. Survey of American Literature from the Civil War to the Present.** Examples of American writing from the Civil War to the present time are discussed. Reading assignments include representative literary works with selections from significant critical writing. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric. English 115 is preferred but not required.
- 230. The American Novel.** An historical and critical survey of the development of American prose fiction is presented. It includes intensive reading of such major American authors as Cooper, Melville, James, Hemingway, Faulkner, and others. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric. English 115 is preferred but not required.
- 235. The Contemporary Novel.** The course provides critical survey of the chief British and American novelists from 1900 to the present time. A comprehensive reading of major authors to show significant trends in modern prose fiction is required. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric. English 115 is preferred but not required.

MATHEMATICS

- 111. Introduction to Analytical Geometry and Calculus.** Coordinate systems, straight lines, functions and graphs, derivatives and integrals of polynomials are presented. This course is designed to provide background for required science courses. Four class meetings each week. I, (4). Prerequisite: College algebra and plane geometry.
- 115. Analytical Geometry and Calculus.** The applications of differentiation and integration; derivatives and integrals of logarithmic, exponential, and trigonometric functions are included in this course. This course is designed for students desirous of electing advanced chemistry and pharmacy courses. Four class meetings each week. II, (4). Prerequisite: Mathematics 111.
- 120. Mathematical Statistics.** This course includes discussions of graphs and tabular presentation of frequency distributions, measures of central tendency

and dispersion, probability, correlation, introduction to sampling and test significance. It is designed for students interested in manufacturing pharmacy and the biological sciences. Four class meetings each week. III, (4). Prerequisite: College algebra and plane trigonometry.

MICROBIOLOGY

- 233. Microbiology.** The characteristics of bacteria, yeasts, and molds; their relation to disease; biologic products and antibiotics prepared from them. Action of antiseptics, disinfectants, and sterilizants are presented. The laboratory work includes the preparation of cultures and stained mounts, isolation and identification of organisms from mixed cultures, and antibiotics. Three lectures and two two-hour laboratory periods each week. III, (4). Prerequisite: Chemistry 123; Zoology 123.

PHAMACOGNOSY

- 231, 232, 233. Principles of Pharmacognosy.** The fundamental botany and pharmacognosy of the principal drugs of vegetable and animal origin are studied by means of lectures, laboratory work, and field trips. Related products of economic importance bearing upon the health of man and animal are considered. Three lectures and one three-hour laboratory period each week. I, (4); II, (4); III, (4). These courses must be taken in sequence. Prerequisite: Chemistry 123; Zoology 123.
- 245. Senior Research in Pharmacognosy.** The student investigates, under the direction of one or more faculty members, a problem of limited scope in pharmacognosy. The investigation may include experimentation and library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.
- 301. Plant Anatomy.** Vascular plants are studied microscopically. Particular attention is given to the development and evaluation of the vascular systems in all parts of the plant. Three lectures and one three-hour laboratory period each week. I or II, (4). Prerequisite: Pharmacognosy 233.
- 302. Plant Physiology.** Life processes in plants, with particular attention to the cell as the fundamental functional unit, are discussed. The basic principles of plant metabolism are emphasized in relation to essential elements, energy relationship, and other environmental factors. Three lectures or conferences and one three-hour laboratory period each week, I or II, (4); or three lectures and two three-hour laboratory periods each week, I or II, (5). Prerequisite: Pharmacognosy 233.
- 303. Systematic Pharmacognosy.** A taxonomic study of the flowering plants, with particular emphasis upon those of drug importance is provided. Relationship of the principal orders and families, rules of nomenclature, and systems of classification are considered. Laboratory work includes identification of species, together with the collection, identification, and preservation of drug

plant specimens. Two lectures and two three-hour laboratory periods each week, II or III, (4); or two lectures and three three-hour laboratory periods each week, II or III, (5). Prerequisite: Pharmacognosy 233.

306. Pharmacognosy of the Allergens. The identification and distribution of hay fever plants is discussed. The course includes an atmospheric survey and the study of wind-borne pollen and fungi spores. Two lectures and one three-hour laboratory period each week. III or summer, (3).

314. Histological Techniques. The theoretical and practical development of the knowledge and skills essential to the preparation of biological materials for microscopic study are considered. One lecture and two three-hour laboratory periods each week. I or II, (3). Prerequisite: Pharmacognosy 233 or permission of the departmental faculty.

316. Commercial Pharmacognosy. The traffic in crude drugs and related products are examined with consideration of the basic principles governing the production, distribution, and consumption of these materials. Three lectures or conferences each week. I, (3). Prerequisite: Pharmacognosy 233.

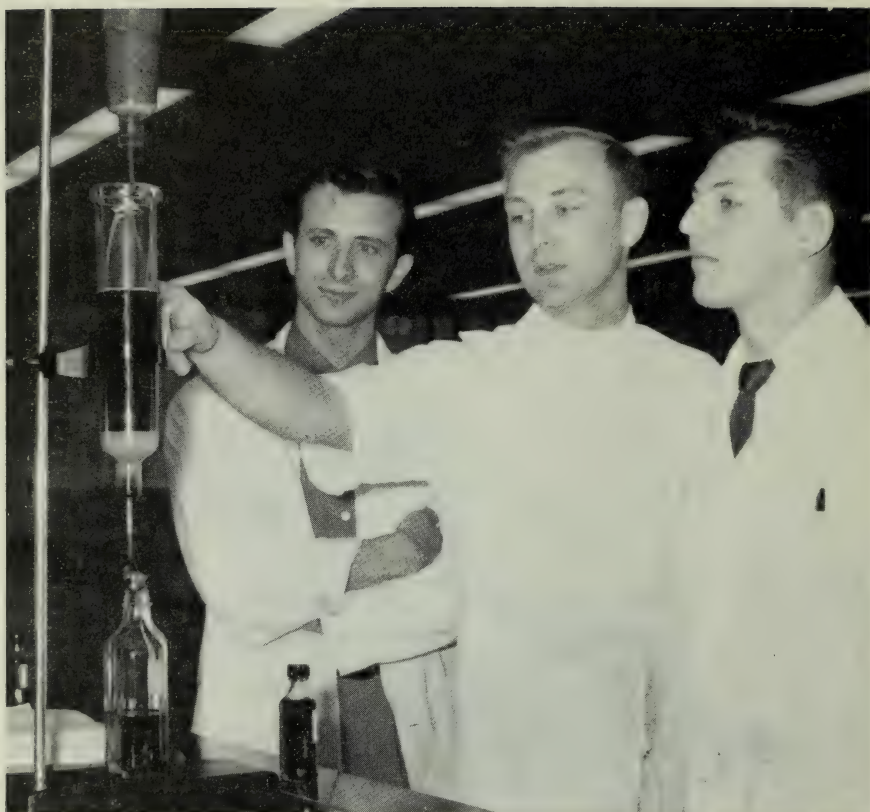
PHARMACOLOGY

241, 242, 243. Pharmacology. The factors underlying the applications of pharmacologic principles and agents to therapeutic problems are considered. Lectures and discussions are directed to an understanding of the mechanisms and sites of drug actions. Emphasis is placed upon the relationships of physiology, biochemistry, and pathology to the therapeutic applications of drug agents. Three lectures and one four-hour laboratory period each week. I, (4); II, (4); III, (4). These courses must be taken in sequence. Prerequisite: Physiology 233; Chemistry 123; Microbiology 233.

244. Emergency Aid. The role of the community pharmacist with respect to the legal and ethical codes as they apply to emergencies arising in the practice of the profession are outlined. Emphasis is placed upon the description, prevention, and temporary relief measures of emergencies arising from accidents, minor afflictions, self-inflicted injuries, disasters, and national conflicts. Two lectures or conferences each week. II, (2). Prerequisite: Pharmacology 241.

245. Senior Research in Pharmacology. The student investigates, under the direction of one or more faculty members, a pharmacologic problem of limited scope. The investigation may include experimentation and library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.

250. Veterinary Pharmacology. A course designed to acquaint the pharmacist with the application, mechanism of action, and dangers of drugs used in the areas of agriculture and veterinary medicine. Three lectures each week. III, (3). Prerequisite: Pharmacology 242.



EXTRACTION EXPERIMENT IN PHARMACY

310. **Bioassay.** Official, industrial, and general bioassay procedures are studied with emphasis on their applicability. Their reliability is considered on a statistical basis. Laboratory demonstration periods emphasize the designing, setting-up, and analysis of representative bioassay preparations. Two lectures and two three-hour laboratory demonstration periods each week. II or III, (4). Prerequisite: Pharmacology 241 and permission of departmental faculty.

PHARMACY

110. **Orientation to Pharmacy.** A series of lectures or discussions intended to introduce the student to the scope and opportunities in the field of pharmacy are presented. Opportunities in research, selling, manufacturing, and hospital pharmacy as well as those in retail practice are included. One class meeting each week. I or II. While successful completion of this course is required, credit toward graduation is not granted.
113. **General Pharmacy.** The nomenclature, literature, mathematics, and general

processes of pharmacy are presented. Two lectures, one recitation, and one three-hour laboratory period each week. III, (4).

121. **Inorganic Pharmacy.** This course is a survey of the various inorganic compounds of pharmaceutical importance based on the periodic arrangement of the elements. Emphasis is placed on the physical and chemical properties of pharmaceutical significance, as well as the medicinal uses. Two lectures, one recitation, and one three-hour laboratory period each week. I, (4). Prerequisite: Pharmacy 113.
122. **Pharmaceutical Preparations, I.** The simpler classes of pharmaceutical preparations are discussed. Included are such classes of preparations as waters, solutions, syrups, etc. Three lectures or recitations and one three-hour laboratory period each week. II, (4). Prerequisite: Chemistry 113; Pharmacy 121.
123. **Elementary Physical Pharmacy.** The principles and laws of physical chemistry are applied to the preparation and study of dosage forms. Two lectures, one recitation, and one three-hour laboratory period each week. I, (4). Prerequisite: Chemistry 122; Pharmacy 122.
231. **Pharmaceutical Preparations, II.** The study of pharmaceutical preparations started in Pharmacy 122 is extended to the more complex formulations. It includes the discussion of preparations in which the process of extraction is involved (i.e., tinctures, fluidextracts, and extracts). Two lectures or recitations and two three-hour laboratory periods each week. III, (4). Prerequisite: Pharmacy 122.
232. **Pharmacy Technology.** The more complex drug products are discussed in regard to ingredients, formulation, and preparation. Raw materials are grouped according to their pharmaceutical properties and usage. Comparative discussion of the preparation of products by small scale mechanized and extemporaneous methods are presented in lectures and in the laboratory. Two lectures, one recitation, and one three-hour laboratory or demonstration period each week. II, (4). Prerequisite: Pharmacy 231.
233. **Special Pharmaceutical Formulations.** Pharmaceutical dosage forms applicable to dentistry, animal, and allied health professions are discussed. Two class meetings and one three-hour laboratory period each week. III, (3). Prerequisite: Pharmacy 232.
234. **Therapeutic Aids and Prosthetics.** This course presents a discussion of the items supplied by pharmacies for use in the treatment or management of the sick or injured patient. Sickroom supplies, bandages, hypodermic syringes and needles, crutches, splints, and oxygen equipment are included. One class meeting each week. III, (1). Prerequisite: Second-year standing.
- 241, 242, 243. **Dispensing.** The technics necessary for the extemporaneous compounding of prescriptions and the dispensing of preformed medicinal products are discussed. Laboratory work provides practical experience in the



JUNIOR-SENIOR PHARMACY DISPENSING LABORATORY

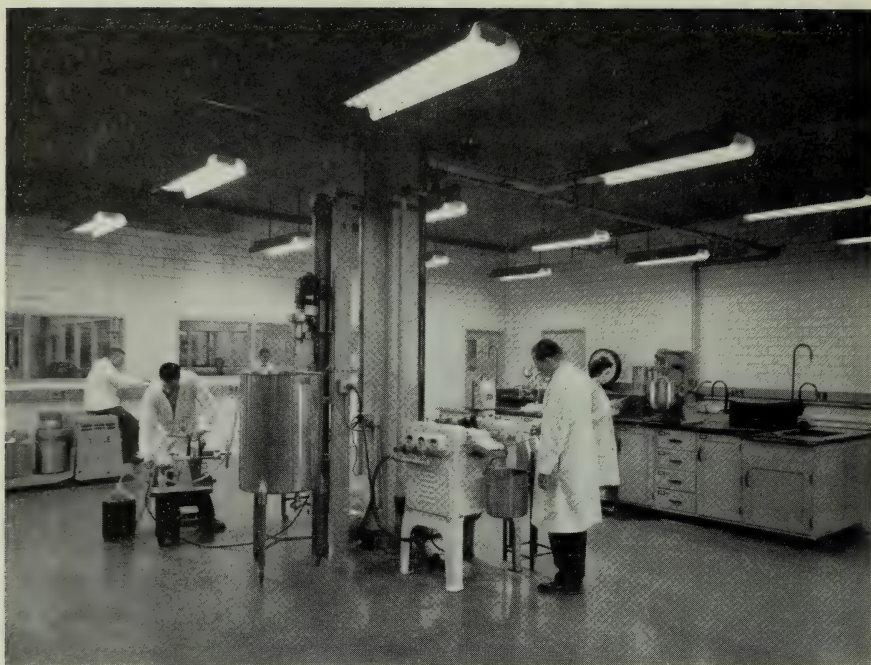
compounding and dispensing of medicinal preparations. Two lectures and two three-hour laboratory periods each week. I, (4); II, (4); III, (4). These courses must be taken in sequence. Prerequisite: Pharmacy 233.

245. **Senior Research in Pharmacy.** The student investigates, under the direction of one or more faculty members, a pharmaceutical problem of limited scope. The investigation may include experimentation and library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.
250. **Hospital Pharmacy Practice.** This course provides discussions and experience in hospital pharmacy management and practice. One conference period and six hours of practice in hospital pharmacy each week. I, II, or III, (3). Prerequisite: Fourth-year standing.
255. **Manufacturing Pharmacy.** The small scale mechanized methods of the preparation of the drug and cosmetic products involved in the manufacturing requirements of professional and hospital pharmacies are presented. Two lectures and one four-hour laboratory period each week. I and II, (3). Prerequisite: Pharmacy 232.

- 260. Introduction to Industrial Pharmacy.** This course offers discussion and practice in the development, production, quality control, and production control of pharmaceutical products. Problems involved in both pilot plant and large-scale production are considered. The equipment and facilities necessary for such operations are discussed. Two lectures and two four-hour laboratory periods each week. II or III, (4). Prerequisite: Pharmacy 255.
- 265. Sterile Product Technology.** The principles of formulation and production of sterile products are presented. Two lectures and one four-hour laboratory period each week. III, (3). Pharmacy 255.
- 275. Cosmetics.** The composition, formulation, and manufacture of selected types of cosmetics are considered. Problems of perfuming, coloring, packaging, and preservation are discussed. One lecture and two three-hour laboratory periods each week. I, II, or III, (3). Prerequisite: Third-year or fourth-year standing.
- 280. History of Pharmacy.** The history of the profession of pharmacy is studied. Library research on pharmaceutical subjects is required. Two class meetings each week. I, II, or III, (3). Prerequisite: Third-year or fourth-year standing and permission of the departmental faculty.
- 295. Seminar in Pharmacy.** The seminar is designed to provide a training period in reading, abstracting, outlining, and presenting current pharmaceutical literature. One class meeting each week. I, II, or III, (1). Prerequisite: Fourth-year standing.
- 300. Hospital Pharmacy.** Study and practice of the administrative and operational aspects of hospital pharmacies. One lecture and nine hours practice each week. I, II, or III, (4).
- 305. Physical Pharmacy.** Physicochemical principles and laws are applied to the study of pharmaceutical dosage forms. Special emphasis is placed on the relationship of chemical kinetics and catalysis to pharmaceutical incompatibilities and stability. Three lectures each week. I, (3). Prerequisite: Pharmacy 231; Chemistry 336.
- 310. Pharmaceutical Manufacturing Unit Operations.** The theory of operation and the design of the equipment used to carry out the unit operations basic to industrial pharmaceutical manufacturing is presented. Two lectures and one four-hour laboratory period each week. I, II, or III, (3). Prerequisite: Permission of the departmental faculty.

PHARMACY ADMINISTRATION

- 112. Principles of Accounting.** Fundamentals of accounting practice are discussed and applied to retail pharmacy. The discussions include methods applicable to stores operating as individual proprietorships or as partnerships. Four class meetings each week. II, (4).



MANUFACTURING PHARMACY LABORATORIES

113. **Elements of Economics.** This course provides a general survey of the operation of the economic system with reference to the business firm, the determination of price and output, the level of national income and the general price level, the monetary and banking system, government finance, competing economic ideologies, and the economics of health. Four class meetings each week. III, (4).
121. **Principles of Marketing.** The functions, commodities, and middlemen involved in the marketing of goods and services are discussed. Attention is given to the marketing policies and problems involved in the operation of institutions engaged in producing and distributing pharmaceutical products. Four class meetings each week. I, (4). Prerequisite: Pharmacy Administration 112, 113.
235. **Pharmaceutical Promotion and Selling Methods.** The fundamentals and technic of promoting and selling pharmaceutical products are examined. Consideration is given to promotional methods and personal selling in marketing activities of manufacturers, wholesalers, and retailers. Four class meetings each week. I, (4). Prerequisite: Pharmacy Administration 121.
240. **Retail Pharmacy Management.** The operational problems of the retail pharmacy from the viewpoint of those responsible for management decisions are

considered. Topics discussed include store establishment and organization; buying, pricing, and selling methods; merchandise planning; expense control; personnel selection and management; and financial analysis. Four class meetings each week. III, (4). Prerequisite: Pharmacy Administration 121.

- 243. Pharmacy Law.** The laws and regulations relating to the practice of pharmacy and the principles of common law bearing upon the work and responsibilities of the pharmacist are presented. Four lectures or recitations each week. III, (4). Prerequisite: Fourth-year standing.
- 245. Senior Research in Pharmacy Administration.** The student investigates, under the direction of one or more faculty members, a problem of limited scope in this field. The investigation may require library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.
- 255. Principles of Business Law.** The principles of business law covering the subjects of contracts, sales, negotiable instruments, agency and business organizations are discussed. Four lectures or recitations each week. II, (4). Prerequisite: Pharmacy Administration 112, 113.

PHYSICAL EDUCATION

- 101, 102, 103. Physical Education.** The program is designed to develop physical fitness and skills in various recreational activities. Students scoring low on a motor fitness test are assigned to a developmental class. I, II, and III, (1). Credit for these courses is required of all first-year students in the College of Pharmacy. Credit may not be used for graduation.

PHYSICS

- 111, 112, 113. General Physics.** This course presents a study of the fundamental concepts and laws of physics and is designed to give a thorough presentation of the basic principles of classical physics as well as of the more recent developments. Attempts are made to apply the theoretical matter to practical problems. Two lectures, one recitation, and one three-hour laboratory period each week. I, (4); II, (4), III, (4). Prerequisite: College algebra and plane trigonometry. Physics 111 is a prerequisite to either Physics 112 or 113.
- 315. Modern Physics.** Basic tenets of relativity and quantum theories are presented. Topics discussed include elementary particles as well as atomic and nuclear structure. The biological and chemical implications of physics are stressed. Three lectures each week. II or III, (3). Prerequisite: Physics 113; Mathematics 111.
- 325. Pharmaceutical Radiology.** The properties and methods of the detections of radiations are discussed. The use of tracers in radiobiology, medicine, and chemistry, including the applications to therapy and health physics, are included. Methods of assaying and dispensing radioactive pharmaceuticals

are emphasized. Two lectures and one four-hour laboratory period each week. II, (3). Prerequisite: Physics 113; Pharmacy 123.

PHYSIOLOGY

232. **Human Physiology.** The physiology of blood, heart and circulation, respiration, gastrointestinal tract and liver, kidney, skin, and water balance is discussed. Three lectures or recitations and one three-hour laboratory period each week. II, (4). Prerequisite: Zoology 123; Chemistry 123.
233. **Human Physiology.** The physiology of endocrines, heat regulation, nutrition and metabolism, muscle and nerve, central and autonomic nervous systems, and senses is discussed. Three lectures or recitations and one three-hour laboratory period each week. III, (4). Prerequisite: Physiology 232.

PSYCHOLOGY

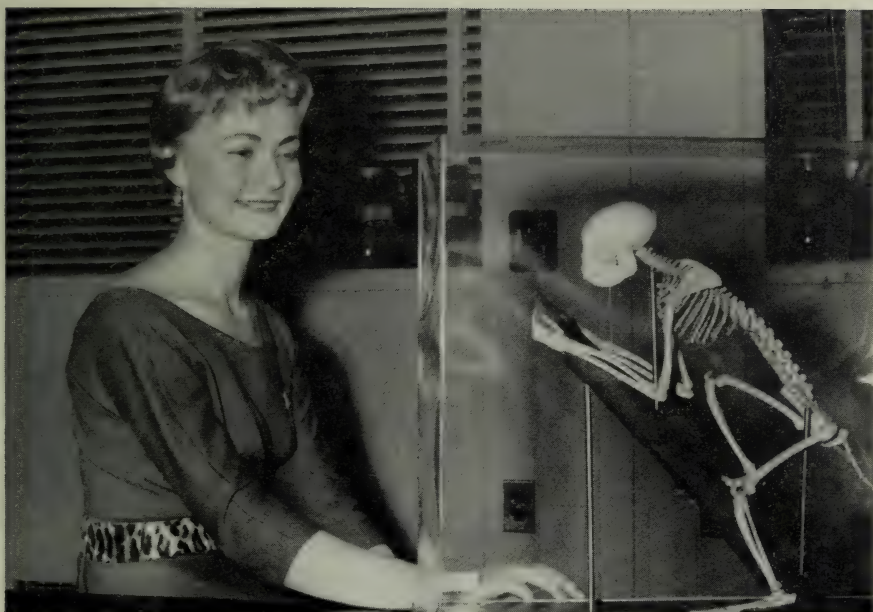
126. **Introductory Psychology.** Introductory analysis and description of human behavior. The course systematically considers biological and social aspects of behavior, growth and development, motivation, emotion and adjustment, personality and its appraisal, learning and perception. Three lectures or recitations each week. I, II, or III, (3).
130. **Applied Psychology.** This course is concerned with the application of the principles of psychology to industry, business, and emotional adjustments. The areas considered include industrial efficiency, advertising techniques, employee and executive selection, detection and treatment of criminals and delinquents, techniques of diagnosis, and principles of personal adjustment. Three class meetings each week. I, II, or III, (3). Prerequisite: Psychology 126.

SOCIOLOGY

125. **Introductory Sociology.** This course serves as an introduction to the basic structure and the principal forces which influence human society. The fundamental aspects of social organization, culture, socialization and personality, social interaction, collective behavior, and social change are considered. Three lectures or recitations each week. I, II, or III, (3).

ZOOLOGY

121. **General Zoology.** This course introduces the student to the basic biologic principles of cytology, metabolism, embryology, anatomy, genetics, and evolution as illustrated by the major animal phyla. Two lectures and two three-hour laboratory periods each week. I, (4).
- 122, 123. **Mammalian Zoology and Histology.** The structure of man and other mammals as correlated with function is studied. The didactic work is accompanied by the dissection of the cat and the study of histological sections of selected tissues. The fundamentals of mammalian embryology, evolution, adaptation, distribution, and classification are also presented. Two lectures and two three-hour laboratory periods each week. II, (4); III, (4). These courses must be taken in sequence. Prerequisite: Zoology 121.



A STUDY IN ANTHROPOLOGY

- 215. General Entomology.** This introductory course stresses the recognition, life histories, morphology, physiology, and distribution of insects and related forms. It provides a background for an understanding of control by the use of insecticides and other means. Three lectures and one three-hour laboratory period each week. II, (4). Prerequisite: Zoology 121.
- 245. Senior Research in Zoology.** The student investigates, under the direction of one or more faculty members, a zoological problem of limited scope. The investigation may include experimentation and library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.
- 295. Seminar in Biology.** The student is required to present a paper resulting from a survey of the literature dealing with a specific topic in biology. I, II, and III, (1 to 3). May be elected for one hour credit in each of three quarters. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.
- 305. Invertebrate Zoology.** This course stresses the morphology, physiology, life cycles, and ecology of free-living invertebrates. It includes laboratory and field work. Three lectures and one three-hour laboratory period each week. II or III, (4). Prerequisite: Zoology 121.



BIOLOGICAL SCIENCES LABORATORY
Zoology, Mammalian Anatomy, Histology, Entomology, and Pharmacognosy

310. **Genetics.** This course considers the fundamental principles of biological inheritance and the application of these in the study of plant and animal life. Three lectures and one three-hour laboratory period each week. II, (4). May be elected in the fourth year only. Prerequisite: Zoology 123.
315. **Anthropology.** The place and role of man in nature are analyzed by a study of the origins and evolution of the Primates in general and of the Hominidae in particular, by studying the evolution of human cultures, and by a comparative study of contemporary societies. Three lectures and one three-hour laboratory period each week. III, (4). Prerequisite: Zoology 123; Sociology 125.
341. **Parasitology and Public Health.** The vertebrates and invertebrates responsible for, or involved in, the transmission of diseases of man and domestic animals are studied. The epidemiology of viral, bacterial, protozoan, and helminthic diseases is stressed, with particular attention given to the various patterns of survival and spread of the parasites and their entry and exit from the host. The Protozoa, Helminths, and Arthropods are used to illustrate the biology of host-parasite and other interspecific biological relationships. Venomous arthropods and reptiles are also considered to complete the study of animals injurious to human health. Three lectures and one three-hour laboratory period each week. I, (4). Prerequisite: Microbiology 233.

(See Graduate College catalog for courses offered to graduate students.)

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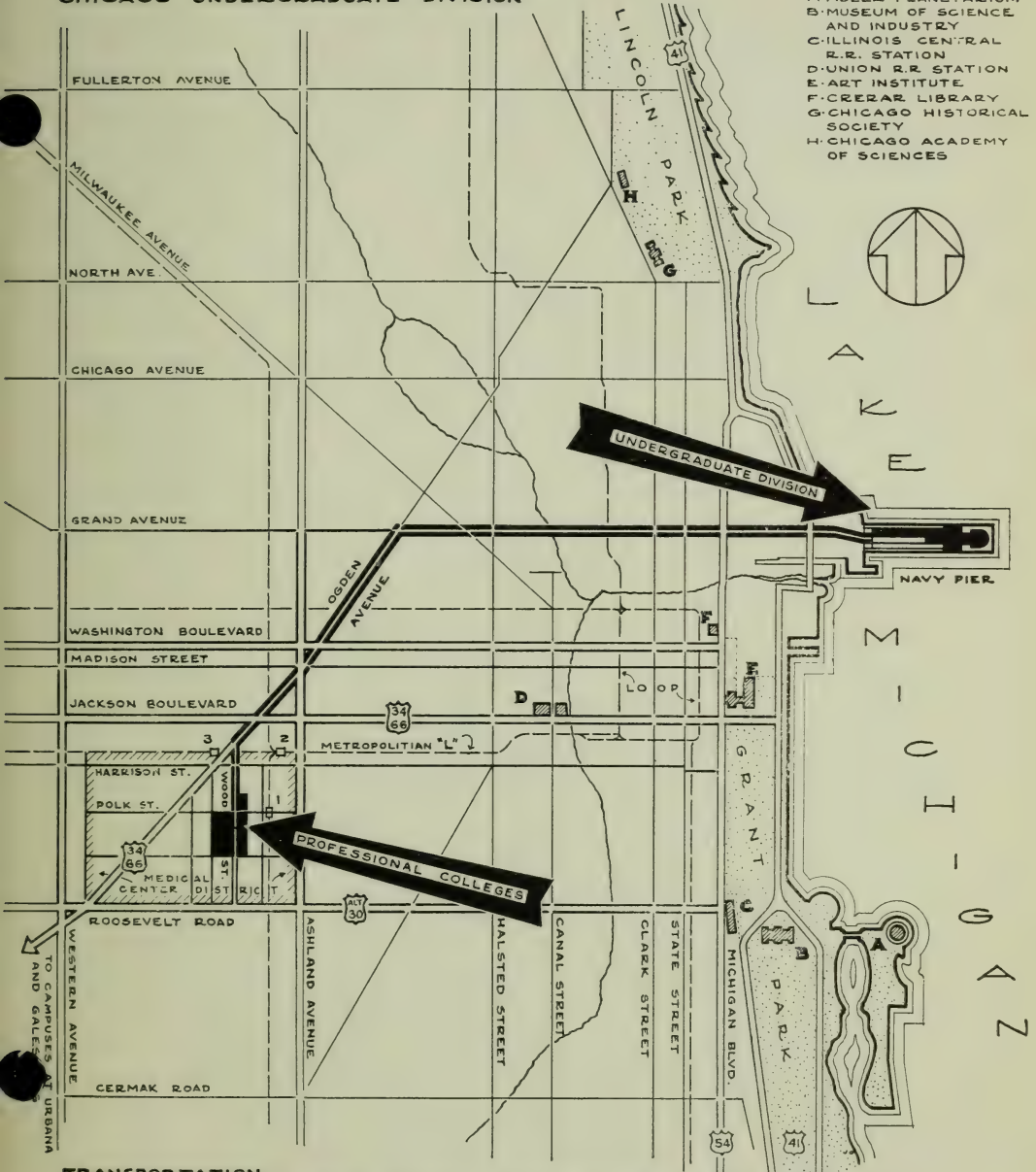
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UNIVERSITY OF ILLINOIS

CHICAGO PROFESSIONAL COLLEGES
CHICAGO UNDERGRADUATE DIVISION

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- A-ADLER PLANETARIUM
- B-MUSEUM OF SCIENCE AND INDUSTRY
- C-ILLINOIS CENTRAL R.R. STATION
- D-UNION R.R. STATION
- E-ART INSTITUTE
- F-CRERAR LIBRARY
- G-CHICAGO HISTORICAL SOCIETY
- H-CHICAGO ACADEMY OF SCIENCES



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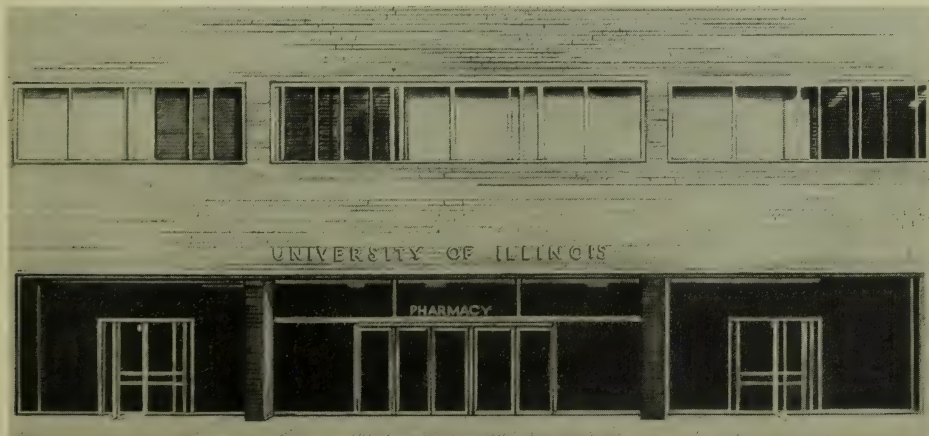
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COLLEGE OF PHARMACY

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COLLEGE OF PHARMACY
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1960/62

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CALENDAR

1959 — FALL QUARTER

September 24, 25.....Registration and orientation
September 28, Monday.....First day of classes
November 26, Thursday.....Thanksgiving Day
December 19, Saturday.....Fall quarter ends

1960 — WINTER QUARTER

January 4, Monday.....First day of classes
March 19, Saturday, 12:00 noon.....Winter quarter ends

1960 — SPRING QUARTER

March 28, Monday.....First day of classes
May 30, Monday.....Memorial Day
June 11, Saturday, 12:00 noon.....Spring quarter ends

1960 — SUMMER QUARTER

June 20, Monday.....First day of summer term
July 4, Monday.....Independence Day
July 30, Saturday, 12:00 noon.....First six-week summer term ends
August 1, Monday.....Second six-week summer term begins
September 5, Monday.....Labor Day
September 10, Saturday, 12:00 noon.....Second six-week summer term ends

1960 — FALL QUARTER

September 20, 21.....Registration and orientation
September 26, Monday.....First day of classes
November 24, Thursday.....Thanksgiving Day
December 17, Saturday, 12:00 noon.....Fall quarter ends

1961 — WINTER QUARTER

January 3, Tuesday.....First day of classes
March 18, Saturday, 12:00 noon.....Winter quarter ends

1961 — SPRING QUARTER

March 27, Monday.....First day of classes
May 30, TuesdayMemorial Day
June 10, Saturday, 12:00 noonSpring quarter ends

1961 — SUMMER QUARTER

June 19, MondayFirst day of summer term
July 4, TuesdayIndependence Day
July 29, Saturday, 12:00 noon.....First six-week summer term ends
July 31, Monday.....Second six-week summer term begins
September 4, MondayLabor Day
September 9, Saturday, 12:00 noonSecond six-week summer term ends

1961 — FALL QUARTER

September 21, 22.....Registration and orientation
September 25, MondayFirst day of classes
November 23, ThursdayThanksgiving Day
December 16, Saturday.....Fall quarter ends

1962 — WINTER QUARTER

January 2, Tuesday.....First day of classes
March 17, Saturday, 12:00 noon.....Winter quarter ends

1962 — SPRING QUARTER

March 26, Monday.....First day of classes
May 30, Wednesday.....Memorial Day
June 9, Saturday, 12:00 noonSpring quarter ends

1962 — SUMMER QUARTER

June 18, MondayFirst day of classes
July 4, Wednesday.....Independence Day
July 28, Saturday, 12:00 noon.....First six-week summer term ends
July 30, Monday.....Second six-week summer term begins
September 3, Monday.....Labor Day
September 8, Saturday, 12:00 noonSecond six-week summer term ends

COLLEGE OF PHARMACY

LOCATION, HISTORY, AND ADMINISTRATION

LOCATION

The College of Pharmacy of the University of Illinois is located in the great medical center on the west side of Chicago. The work of the College of Pharmacy is centralized in the new East Unit of the Dentistry-Medicine-Pharmacy Building at 833 South Wood Street. The work of the Colleges of Dentistry and Medicine, the Graduate College, and the College of Nursing is centralized in the Dentistry-Medicine-Pharmacy Building which faces on Polk, Wood, and Wolcott Streets. The campus of the University of Illinois Chicago Professional Colleges, which is located about three miles from the Loop, or main business district of the city, can be reached conveniently by elevated train, bus, or automobile.

The University of Illinois Research and Educational Hospitals located at 840 South Wood Street and the Illinois Eye and Ear Infirmary located at 904 West Adams Street provide excellent facilities for the teaching of hospital pharmacy to both undergraduate and graduate students.

The Drug Plant Experiment Station, located at Lisle, Illinois, provides a unique opportunity for the development of drug plant research and the training of graduate students who are majoring in the field of pharmacognosy. The facilities of the Station are augmented by the very extensive plant culture programs of the Morton Arboretum.

HISTORY

The College of Pharmacy was originally an independent proprietary institution before becoming affiliated with the University of Illinois. It is older, having been organized as the Chicago College of Pharmacy on September 5, 1859. It was established eight years before the University itself was incorporated. It was the fifth institution of its kind in the United States. Activities were suspended during the Civil War, and the College was not reopened until 1870. When its property was destroyed by the Chicago fire of 1871, the pharmacists of the world promptly came to the rescue, those of Great Britain in particular. They enabled the College to reopen again in 1872, with new equipment, including a library, much better than before. In 1896, it became the School of Pharmacy of the University of Illinois, and in 1932 its name was changed to the College of Pharmacy when the curriculum leading to the degree of Bachelor of Science in Pharmacy was announced. In 1939-1940 the College of Pharmacy was moved from its former quarters, 715 South Wood Street, to the Dentistry-Medicine-Pharmacy Building at 808 South Wood Street.

Teaching and research facilities of the College were greatly expanded by the completion and occupancy of a new classroom and laboratory building prior to the opening of the fall quarter of 1954. The new six-story East Unit of the Dentistry-Medicine-Pharmacy Building at 833 South Wood Street now provides administrative and general offices for the College of Pharmacy, lecture halls, classrooms, manufacturing, research, teaching, and dispensing laboratories, storage space for both teaching and research materials, and space for 800 student lockers. Upon recommendation of the faculty, a new expanded program leading to the degree of Bachelor of Science in Pharmacy will become effective after April 1, 1960. The new curriculum consists of five years of academic training, the first of which will be taken in any accredited junior college, college, or university, followed by four years of professional instruction at the Chicago campus. With the added teaching facilities, the College of Pharmacy is planning the establishment of a postgraduate teaching program, which will enable the University to render state-wide services to the 4,200 community pharmacies and the 7,000 practicing pharmacists in Illinois.

ADMINISTRATION

Under the laws of the state of Illinois, the Board of Trustees of the University of Illinois is composed of eleven members, including the Governor and the Superintendent of Public Instruction who serve ex-officio, nine members being elected by the people of the state for terms of six years.

Under the University Statutes adopted by the Board of Trustees, the affairs of the University are administered by the President, the Vice-President and

Provost, the Vice-President in charge of the Chicago Professional Colleges, the Executive Dean of the Chicago Undergraduate Division, the deans and directors of the colleges and schools, and other administrative officers. The Chicago Professional Colleges consist of the College of Dentistry, the College of Medicine, the College of Pharmacy, and the College of Nursing, each having its own dean, and all being under the general supervision of the Vice-President in charge of the Chicago Professional Colleges.

Graduate work at the Chicago Professional Colleges is conducted by a division of the Graduate College under the supervision of an Associate Dean. The present work of the Graduate College is described in detail in a separate announcement.

A senate is constituted at each campus of the University and consists of the full professors, the deans of colleges, the directors of schools and institutes, the heads and chairmen of departments, and elected members from each faculty. Any faculty member elected to a senate committee is a member of the senate during his committee membership.

Members of the faculty in each college cooperate with those in other colleges of the University, both in instruction and in research. Staff members of the basic science departments in the College of Medicine also give instruction for students of dentistry, pharmacy, nursing, and occupational therapy.

ACCREDITATION

The College of Pharmacy of the University of Illinois is fully accredited by the American Council on Pharmaceutical Education. The Council is the only accrediting agency for the profession of pharmacy, and is an affiliate of the American Council on Education.

LIBRARY

The library's collection is a comprehensive one of standard and modern works on dental, medical, nursing, pharmaceutical, social work, and allied scientific subjects, with some 1,300 current periodicals and more than 137,000 volumes on its shelves. Its facilities are available for reference use and most materials may be withdrawn for use outside the reading rooms.

RECREATIONAL FACILITIES

The social and recreational center for all students, alumni, and faculty members is the Chicago Illini Union Building, 715 South Wood Street. Its facilities include a cafeteria, grill, soda fountain, browsing room, music room, gymnasium, meeting rooms, and game rooms. Intramural sports under a trained director are encouraged, and facilities and equipment are



PHARMACOLOGY LABORATORY

available for softball, horseshoes, tennis, archery, wrestling, fencing, badminton, basketball, and ping-pong. Through special arrangements at the nearby Duncan YMCA, hand ball and swimming are available to students.

ADMISSION REQUIREMENTS

Beginning in 1960, the curriculum in pharmacy will comprise five academic years of college work leading to the degree of Bachelor of Science in Pharmacy. This is a minimum curriculum adopted by all but two accredited colleges of pharmacy in the United States.

A person seeking admission to the University of Illinois College of Pharmacy must have been graduated from an accredited secondary school, or have equivalent preparation, and have satisfactorily completed not less than thirty semester hours or equivalent of academic work, exclusive of hygiene, physical education, and military science in an accredited college, junior college, or university.

To be considered for admission the applicant should submit to the Associate Dean of Admissions and Records, 1853 West Polk Street, Chicago 12, Illinois, the following documents: (1) completed application forms, and (2) an official transcript of record in each college, junior college, or university attended.

New classes enroll only once a year and usually begin in late September.

Applications must therefore be completed not later than September 1 of the year in which the student wishes to enroll. Only when the Admissions Committee deems it advisable are applications accepted after September 1.

APPLICATIONS FROM NONRESIDENTS OF ILLINOIS

The Admissions Committee is authorized to accept up to ten per cent of each entering first-year professional class from nonresident applicants. However, only highly qualified nonresident students are considered for admission. Applicants for admission who come from foreign countries must make all arrangements in advance. They must furnish complete official credentials and certify that they are able to meet in full the cost of attending the University. Certificates in a foreign language must be accompanied by certified translations.

SELECTION OF APPLICANTS

In granting admission, the Admissions Committee considers each candidate's qualifications, including his scholastic records from the colleges and universities of recognized standing which he previously attended. Applicants from institutions other than the University of Illinois must present a college average of at least 3.0 in terms of the grading system of the University of Illinois for all work previously taken and must have a combined average of 3.0 for the last semester, or last twelve hours, whichever is applicable. Students entering the College of Pharmacy from other colleges within the University of Illinois must be eligible for continued registration in that college.

An applicant whose over-all average is 3.0 or above, but has an average below 3.0 but above 2.5 for the last semester or twelve hours, may be admitted on a probationary status upon recommendation of the Admissions Committee and the approval of the Dean of the College.

The grading system in force at the University of Illinois is based on the values of A = 5.0, B = 4.0, C = 3.0, D = 2.0, and E = 1.0 (failure).

All applicants seeking admission to the College of Pharmacy receive formal notification of the action of the Admissions Committee.

READMISSION REQUIREMENTS

A student returning to the College of Pharmacy after remaining out of the college one or more quarters is considered for readmission on the basis of the curriculum in effect at the time of his return. Action taken is for the student's best interest, and in no case is he unduly penalized for conditions beyond his control. A student dropped for poor scholarship may at the discretion of the Committee on Student Status and Promotion be readmitted on a probationary status but must prove that he can do work on a level required for graduation.

RENEWING APPLICATIONS

An applicant who has been accepted for admission but fails to enroll, and who wishes to enter in a subsequent year, must reapply for admission and must meet all requirements in force at the time of the new application.

HIGH SCHOOL REQUIREMENTS

In preparing to enter college for the study of pharmacy, certain high school courses are required to fulfill the fifteen units of acceptable school work. The completion of three years of English, one year of algebra, and one year of plane geometry are among the requirements. A fourth year of English and additional mathematics are helpful but not required. Such courses as biology, chemistry, and physics serve as a foundation for future courses in the College of Pharmacy. The study of history, social studies, and two years of either Latin or a modern foreign language is also of great value. Skill in the use of a typewriter is likewise an asset to the pharmacy student.

ADMISSION BY TRANSFER

A person who has attended a college or university of recognized standing is considered for admission on presenting (1) a transcript of his college record showing him to be in good standing at the time of his withdrawal from the institution from which he comes, and (2) an official statement of his preparatory school work. If the transcript shows that the applicant has completed college work in addition to the preprofessional requirement, with a grade of "C" or better in subjects which are required or accepted as electives in the professional curriculum, he may be granted advanced standing. In no case is a degree in pharmacy granted to a student who has not been a registered full-time student in this or another accredited college of pharmacy for at least three academic years.

DEPOSIT

Each applicant who is assigned a place in any class in the College of Pharmacy is required to make a deposit of \$15.00 within two weeks of the date of notification that he will be admitted. This deposit is applied on fees assessed against him at the time of registration. Failure to pay this deposit within the specified time subjects the applicant to forfeiture of his place. No deposit is returned unless the applicant notifies the Associate Dean of Admissions and Records, at least thirty days before the time for registration, that he will not be able to enter.

PHYSICAL REQUIREMENTS

Evidence of satisfactory health is desirable before enrollment, and a certificate attesting to the applicant's health is requested from the Health Service of the last institution attended or from the applicant's private physician.

Each applicant is advised to contact a physician in regard to his health, the possible need for glasses or correction of other defects, and to insure that immunizations for smallpox, tetanus, and poliomyelitis are up to date.

Each student accepted for admission is required to report to the University

COLLEGE REQUIREMENTS

College work submitted to meet the entrance requirements of the College of Pharmacy must include a minimum of credit in the following courses: general or inorganic chemistry, including qualitative analysis, eight semester hours; college algebra, three semester hours; plane trigonometry, two semester hours; and English composition, six semester hours. The elective courses selected to complete the required thirty semester hours should not include courses offered in the College of Pharmacy but those which will increase the social and cultural background of the student. If credit in courses required in the College of Pharmacy curriculum is offered to meet the minimum admission requirement, the student is required to elect an equivalent number of hours to meet the requirement for graduation.

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grades in those courses which count toward graduation are used in computing the graduation average. Where a course has been repeated, both the original and subsequent grades are included in the average if the course is to be counted toward graduation. Either the first three years of work, or the last year, must be done in the College of Pharmacy.

STATE REGISTRATION OF PHARMACISTS

The Pharmacy Practice Act of the state of Illinois in effect January 1, 1956, provides that:

"Any person shall be entitled to registration as a registered pharmacist who is not less than twenty-one (21) years of age, of good moral character and temperate habits, a graduate of an accredited high school or whose education is equivalent thereto in the discretion of the Board, a graduate of a course of at least four academic years with a pharmaceutical degree from a school or college of pharmacy or department of pharmacy of a university recognized and approved by the Department of Registration and Education, and who has had at least one (1) year of pharmacy apprenticeship experience from and after the successful completion of at least one (1) academic

RENEWING APPLICATIONS

An applicant who has been accepted for admission but fails to enroll, and who wishes to enter in a subsequent year, must reapply for admission and must meet all requirements in force at the time of the new application.

HIGH SCHOOL

In preparation for pharmacy courses are required. The completion of plane geometry and additional biology, chemistry, and the College of either I or II, the use of

ADMISSION

A person who is considered for admission has a record showing good standing from the institution of his preparation. He has completed his preparation with a grade

as electives in the professional curriculum, he may be granted advanced standing. In no case is a degree in pharmacy granted to a student who has not been a registered full-time student in this or another accredited college of pharmacy for at least three academic years.

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PHYSICAL REQUIREMENTS

Evidence of satisfactory health is desirable before enrollment, and a certificate attesting to the applicant's health is requested from the Health Service of the last institution attended or from the applicant's private physician.

Each applicant is advised to contact a physician in regard to his health, the possible need for glasses or correction of other defects, and to insure that immunizations for smallpox, tetanus, and poliomyelitis are up to date.

Each student accepted for admission is required to report to the University Health Service for a medical examination, laboratory tests, and immunizations. If immunizations are done beforehand by a private physician and the results in writing are brought in, much time can be saved.

Appointments for the physical examination by the Health Service can be made by telephoning MOnroe 6-3900, extension 8181, or in person at Room 130, Research and Educational Hospitals, 840 South Wood Street, Chicago 12. These appointments are usually made for the month preceding registration. Enrollment in the College of Pharmacy is not continued without approval from the Health Service.

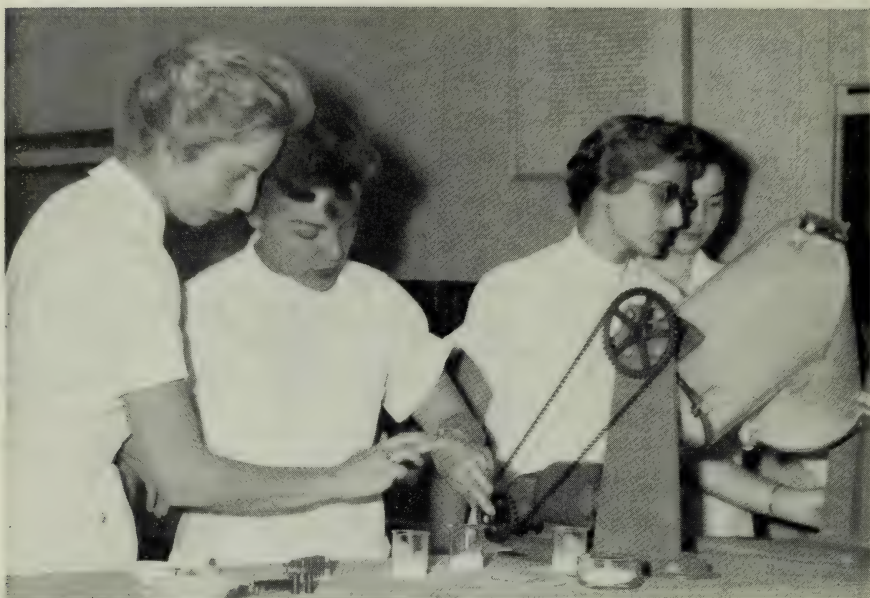
GRADUATION REQUIREMENTS

A candidate for the degree of Bachelor of Science in Pharmacy must meet the following general requirements: (1) be of good moral character, (2) pay all indebtedness to the University, (3) obtain passing grades in all courses of the required curriculum, and (4) have completed the four-year professional curriculum of 189 quarter hours with a minimum average of "C," equivalent to a minimum grade-point average of 3.0 including grades in courses transferred from other institutions. He must also have an average of not less than 3.0 in work done at the University of Illinois. All grades in those courses which count toward graduation are used in computing the graduation average. Where a course has been repeated, both the original and subsequent grades are included in the average if the course is to be counted toward graduation. Either the first three years of work, or the last year, must be done in the College of Pharmacy.

STATE REGISTRATION OF PHARMACISTS

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"Any person shall be entitled to registration as a registered pharmacist who is not less than twenty-one (21) years of age, of good moral character and temperate habits, a graduate of an accredited high school or whose education is equivalent thereto in the discretion of the Board, a graduate of a course of at least four academic years with a pharmaceutical degree from a school or college of pharmacy or department of pharmacy of a university recognized and approved by the Department of Registration and Education, and who has had at least one (1) year of pharmacy apprenticeship experience from and after the successful completion of at least one (1) academic



COSMETIC PREPARATION IN THE PHARMACY CLASS

year of attendance in a school or college of pharmacy or department of pharmacy of a university recognized and approved by the Department, in assisting in the practice of pharmacy under a registered pharmacist in a drug store or pharmacy in this State or in any other state, or in a drug store or pharmacy in a hospital, or similar institution conducted by the Army, Navy, Air Corps, Marine Corps, Coast Guard, Veteran's Administration, or Public Health Service of the United States, or by the State Militia or National Guard of any state thereof, where the practice of pharmacy, including the compounding of prescriptions, is carried on, and who shall pass a satisfactory examination prescribed by the Board of Pharmacy.

"No person shall be registered as a registered pharmacist who is not a citizen of the United States, or who has not made a declaration of intention to become a citizen, or who, having made such declaration of intention, has not filed a petition for naturalization within thirty days after becoming eligible to do so, and no certificate of registration as a registered pharmacist shall be continued or renewed for any person, who having made such declaration of intention has not filed a petition for naturalization within thirty days after becoming eligible to do so.

"The Department of Registration and Education may in its discretion register as a registered pharmacist, without examination, any person who is duly registered as a pharmacist by examination in some other state,

provided that the said person shall produce evidence satisfactory to the Board of having had the required secondary and professional education and training, and is possessed of good moral character and temperate habits, as required of applicants for registration as pharmacists under the provisions of this Act; provided, that persons of good moral character and temperate habits who have become registered as pharmacists by examination in other states prior to the effective date of this Act, shall be required to satisfy only the requirements for registration as pharmacists which existed in this State at the time they became registered as pharmacists in such other states, and provided also, that the state in which each said person is registered shall, under like conditions, grant reciprocal registration as a registered pharmacist, without examination, to a registered pharmacist duly registered as such by examination in this State. The person who shall be registered as a registered pharmacist, by reciprocity, under the provisions of this subsection, shall have the authority to practice the profession of pharmacy in this State, the same as a registered pharmacist who shall be registered, by examination, under the provisions of this Act."

The Pharmacy Practice Act provides further that:

"Any person shall be entitled to registration as a registered pharmacy apprentice who is of the age of sixteen (16) years or over, of good moral character and temperate habits, employed in a drug store or pharmacy in this State under the personal supervision of a registered pharmacist in good standing in this State, a graduate from an accredited high school or comparable school or educational institution recognized by the Department, and who shall have filed a written application therefor, on a form to be prescribed and furnished by the Department for that purpose, accompanied by a fee of Two (2) dollars. . . . The pharmacy apprenticeship experience required of any applicant for registration as a registered pharmacist . . . shall be computed from and after the successful completion of at least one (1) academic year of attendance in a school or college of pharmacy or department of pharmacy of a university recognized and approved by the Department.

"The year of the required pharmacy apprenticeship experience under this Act shall consist predominantly in assisting registered pharmacists under their direct personal supervision in the practice of pharmacy, including, but not limited to, the compounding and dispensing of prescriptions, the preparing of pharmaceutical preparations, the keeping of records and the making of reports required under local, state and federal laws relating to the operation of a pharmacy and to the practice of pharmacy, and such other duties as may be recommended by the Board of Pharmacy and approved by the Department of Registration and Education."

Questions relative to the apprenticeship training requirements and other qualifications for examination and licensure as a pharmacist should be directed to the Department of Registration and Education, State of Illinois, Springfield, Illinois.

STUDENT HOUSING

Excellent living accommodations in the new Residence Hall are available to all unmarried students in the Chicago Professional Colleges. This residence unit is conveniently located to all campus facilities and is provided with the finest furnishings and equipment.

The Residence Hall has 209 student rooms available. These rooms are 11 feet 7½ inches by 16 feet 10 inches. Each room is equipped with two single beds and mattresses, bedding, two chests with mirrors, two desks, two study

STUDENT RESIDENCE HALL



chairs, a lounge chair, study lamps, and waste baskets. Each resident has an individual closet 3 feet by 3 feet.

Each floor of the building has a central washroom and shower room. Trunk storage space is available on the first floor of the building. The laundry room is equipped with automatic washers and driers. The building has two automatic elevators.

Residence hall cost includes room and board (twenty meals per week) and is payable in full or quarterly in advance. Accommodations are available for three quarters at the rate of \$860.00 per student.

For additional information about housing, write to the Director of Housing, 818 South Wolcott Street, Chicago 12, Illinois.

FEES AND EXPENSES

A schedule of fees for regular full-time students in the College of Pharmacy is listed below. One-third of each year's fees is payable on registration for each quarter. The Board of Trustees of the University reserves the right to change the fees at any time through publication in the annual announcements.

	Tuition	Building and Laboratory Service Fee	Union Building Service Charge	Total Per Year
FIRST YEAR				
Illinois	\$150.00	\$ 66.00	\$10.50	\$226.50
Non-Illinois	501.00	84.00	10.50	595.50
SECOND YEAR				
Illinois	150.00	96.00	10.50	256.50
Non-Illinois	501.00	114.00	10.50	625.50
THIRD YEAR				
Illinois	150.00	96.00	10.50	256.50
Non-Illinois	501.00	114.00	10.50	625.50
FOURTH YEAR				
Illinois	150.00	102.00	10.50	262.50
Non-Illinois	501.00	120.00	10.50	631.50

Students registered for twelve credit hours or less pay tuition fees at the rate of \$4.50 a credit hour if residents of Illinois, or \$15.00 a credit hour if nonresidents. For thirteen credit hours or more, the full tuition fees are charged. Students taking twelve quarter hours or less also pay \$3.00 per quarter hour of credit as a building and laboratory service fee if residents of Illinois, or \$3.50 per quarter hour of credit if nonresidents. In no case is a student assessed a greater fee than is paid by full-time students. All part-time students pay the full Union Building Service Charge.

Late Registration Fee. Former students who register after the regular registration days in any quarter pay a late registration fee of \$5.00.

Special Examination Fee. For any special examination given in a course which has been failed, the fee is \$10.00.

Change of Program Fee. A fee of \$1.00 is charged for every change slip issued at the request of the student.

Transcript Fee. Each student who has paid all his University fees is entitled to receive, without charge, one transcript of his record. For each additional transcript the fee is \$1.00.

Listener's Fee. For each credit hour, persons not connected with the University who are permitted to attend classes as listeners pay \$10.00 if residents of Illinois, \$40.00 if nonresidents.

Fees for Unclassified Students. Fees charged unclassified students are based on the amount of work taken.

SERVICE CHARGE FOR DEFERRED FEES

In cases of necessity, students may arrange for deferment of fees by calling at the Business Office, 187 East Dentistry-Medicine-Pharmacy Building. A service charge of ten per cent of the amount of fees deferred, not to exceed \$2.00 a quarter, is charged for the privilege of deferring fees, and this charge must be paid on the day of registration. If deferred fees are paid in full within ten days after registration, the service charge is refunded, except that a minimum service charge of \$1.00 is retained by the University in all cases. The service charge, not less than one-third of the current quarter's fees, and all fees and charges from previous terms must be paid on the day of registration. Failure to meet payments of fees within the time limit cancels at once the privilege of attending classes. Registration is not completed until fees are paid in full, and no credit is recorded for class work completed unless all fees and other charges have been paid in full. Deferred payment of fees delays the completion of registration, but extends the privilege of attending classes pending payment of fees in full as described above.

REFUNDS

If a student withdraws during the first ten days of a quarter, his total fees are refunded. If he withdraws after ten days attendance but before one-half of the quarter has elapsed, a refund of one-half of his total fees is made. No refund is made if the student withdraws after one-half of the quarter's work has elapsed.

EXPENSES

From \$110.00 to \$150.00 a month may be regarded as adequate for the ordinary living expenses of a student in Chicago, exclusive of books, cloth-

ing, railroad fare, and miscellaneous needs. The initial expense for books and materials for the first year averages approximately \$100.00. Some of the books purchased in the first year are used throughout the four years thereby reducing the expenses for upperclassmen.

SCHOLARSHIPS, HONORS, AND PRIZES

SCHOLARSHIPS AWARDED BY COUNTY COMPETITIVE EXAMINATION

County Scholarships. One scholarship is awarded in each county to the high school graduate who passes with the highest average a competitive examination given on the last Saturday in March under the supervision of the County Superintendent of Schools. The grade must be at least 70 per cent. Additional scholarships are awarded in counties with populations in excess of 50,000. All candidates write an examination in English composition and rhetoric and in two of the following fields: mathematics, social studies, natural science. A candidate who has had college work is not eligible.

The Board of Trustees has authorized winners in the above examinations to defer the beginning date of the scholarship in cases where the recipient will not graduate from high school until February next following the March examination. Such candidates must register in the University of Illinois in the second semester of the school year immediately following the examination.

A county scholarship exempts the holder from the tuition fees in any course in the University for four years.

Scholarships for Children of Veterans of World War I, World War II, and the Korean Conflict. By act of the legislature (1947), one scholarship is available in each county each year for a child of a veteran of World War I, one each year for a child of a veteran of World War II, and one each year for a child of a veteran of the Korean conflict. This scholarship is awarded to the candidate who receives the highest grade in the competitive examination held on the last Saturday in March each year as described in the paragraph on the County Scholarships, except that preference is given to children of veterans who are deceased or disabled. It exempts the holder from the tuition fees for four years in any department of the University. Proof of service of the war veteran and of his relationship to the candidate is required.

SCHOLARSHIPS AWARDED FOR MILITARY SERVICE

Military Scholarships. Any person who served in the Army, Navy, Air Force, or Marine Corps of the United States during World War I, or sometime between September 16, 1940, and the termination of the National

Emergency proclaimed December 16, 1950, and who has been honorably discharged, is entitled to a scholarship in the University of Illinois if he possesses the necessary entrance requirements and if he was a resident of the state of Illinois or a student in the University of Illinois at the time of enlistment. This scholarship exempts the holder from the tuition fees in any course in the University for four years.

"A scholarship shall not be awarded hereunder, or, if awarded, the benefits shall not be extended, to any person in respect to any period within the scholarship term during which he is receiving financial assistance for educational purposes from the federal government."

SCHOLARSHIPS AWARDED ON NOMINATION OF MEMBERS OF THE GENERAL ASSEMBLY

Each member of the General Assembly may nominate annually one student from his district for a scholarship in the University. Provision is made for substitute appointments in case the original nominee fails to qualify or discontinues his course. This scholarship exempts the holder from the payment of the tuition fees in any course in the University for a period of four years.

SCHOLARSHIPS AWARDED BY THE ILLINOIS STATE SCHOLARSHIP COMMISSION

The number of first-year scholarships available each year are two for residents of each senatorial district, two for residents of each representative district, and such additional number as appropriated funds permit. To be eligible for a first-year scholarship, each applicant (1) must be a resident of Illinois; (2) must be of good moral character; (3) must have successfully completed the program of instruction at an approved high school, or currently be enrolled at such a school and engaged in a program which will be completed by the end of the academic year; and in either event his scholarship must place him in the upper half of his graduating class; (4) must not have engaged in any university, college, normal school, junior college, or other advanced training subsequent to his graduation from high school; (5) must be an individual who, because of financial considerations, would be deterred from beginning or completing his education; and (6) must have superior capacity to profit by a higher education. In each fiscal year, competitive examinations are conducted among those eligible for first-year scholarships. Each scholarship is renewable annually for a total of three academic years. The amount of each first-year and each renewal scholarship shall be the smallest of the following amounts: (1) \$600.00; or (2) the amount which equals the annual tuition and other necessary fees required by the institution at which the scholarship is to be used; or (3) such amount as the Commission finds to be appropriate in view of the applicant's financial resources. Scholarships may be used in any qualified

institution of higher learning. Further information is available in high school offices.

SCHOLARSHIPS AWARDED BY THE UNIVERSITY COMMITTEE ON SPECIAL UNDERGRADUATE SCHOLARSHIPS

There are several scholarships which are good in any college within the University and which are awarded by the University Committee on Special Undergraduate Scholarships. Application should be made to the Dean of Admissions and Records, University of Illinois, Urbana, Illinois, as soon as possible after March 1 of each year.

SCHOLARSHIPS AWARDED BY THE COLLEGE OF PHARMACY COMMITTEE ON AWARDS AND SCHOLARSHIPS

This Committee has at its disposal a number of scholarships which may be awarded on the basis of need. Applications should be addressed to the Dean of the College of Pharmacy.

SCHOLARSHIPS AWARDED BY PHARMACEUTICAL ORGANIZATIONS

The following pharmaceutical organizations or commercial establishments have made available a number of scholarships which are awarded primarily upon the scholastic ability and the need of the individual student:

American Foundation for Pharmaceutical Education
Charles P. Bondy Memorial Fund for Pharmacy
Douglas Pharmaceutical Council
Ford Hopkins Drug Company
Galler Drug Company
Goldenrod Ice Cream Company
Humiston-Keeling Drug Company
Illinois Rexall Clubs
Lag Drug Company
Osco Drug Company
Sargent's Drug Stores
Stineway Drug Company
E. M. Thomas and J. M. Thomas
Women's Auxiliary of the Research and Educational Hospitals
Louis Zahn Drug Company

HONORS

Graduation with Honors. A student who complies with the requirements for graduation, and who attains in all work presented for the degree the average grade specified below, may be recommended by the University Senate for the honors stated: for an average grade of not less than 4.35, graduation with honors; for an average grade of not less than 4.75, gradu-



REGISTRATION FOR THE ANNUAL OPEN HOUSE

ation with high honors. The honors awarded are noted on the diploma and in the Commencement program.

Honors Day Convocation. Under the supervision of the College of Pharmacy Committee on Awards and Scholarships, an Honors Day Convocation is held annually. Certificates indicating attainment of honors are awarded to members of all four classes who have maintained an average grade of not less than 4.35, and certificates indicating attainment of high honors are awarded to members of all four classes who have maintained an average grade of not less than 4.75. These averages are determined at the beginning of the third quarter of each year. In addition, the prizes indicated in the following section are awarded at this Convocation.

PRIZES

Borden Scholarship Award. The Borden Company, through the Borden Company Foundation, Inc., has established in the College of Pharmacy the Borden Scholarship Award. This award consists of a \$300.00 scholarship, which is given annually to the junior student who has the highest scholastic average upon entering the third quarter of the junior year.

James E. Davis Award. Delta Kappa Sigma Chapter of Rho Pi Phi,

professional pharmacy fraternity, sponsors an annual award consisting of a \$25.00 United States Savings Bond. This prize is given to a senior student who best exhibits the following attributes: service, leadership, and character. The recipient must also have an average grade of 3.75 in all of the required courses upon entering the third quarter of the senior year.

Elich Prize. Mrs. Herman Elich, in memory of Mr. Herman Elich '96, who as an alumnus of the College of Pharmacy originated the Elich Prize, continues to offer annually a prize of \$25.00 to the senior student with the highest scholastic average in pharmacognosy.

Ethel J. Heath Scholarship Key. Gamma Chapter of Lambda Kappa Sigma offers annually an honor key to the graduating sorority member having the highest scholastic average upon entering the third quarter of the senior year. The recipient must have a grade average of at least 4.0 to qualify for the award.

Illinois Pharmaceutical Association Women's Auxiliary Award. The Women's Auxiliary of the Illinois Pharmaceutical Association offers annually an award of \$50.00 to the outstanding graduating woman student of the College of Pharmacy. This award is based upon character, leadership, and scholastic achievement in pharmacy.

Illinois Pharmaceutical Travelers Association Prize. The Illinois Pharmaceutical Travelers Association sponsors an annual award of \$100.00 for a deserving graduating male student who has sustained a grade-point average of 4.0 or better in pharmacy upon entering the third quarter of the senior year. The basis for choosing the recipient is character, leadership, and scholastic achievement.

Rho Chi Prize. Phi Chapter of Rho Chi, pharmaceutical honor society, awards annually an embossed copy of the United States Dispensatory as a prize to the sophomore student who has attained the highest scholastic average upon entering the third quarter of the sophomore year.

Van Schaack Prize. By the will of Cornelius P. Van Schaack, the College of Pharmacy received in 1937 the sum of \$1,000.00 to be held in trust by the University. The annual income from this bequest is used for the purchase of a gold medal, known as the C. P. Van Schaack Award, which is presented to the senior student who has the highest scholastic average in chemistry upon entering the third quarter of the senior year.

From time to time other prizes are made available and are also awarded at the annual Honors Day Convocation.

LOAN FUNDS

Several loan funds have been established for the benefit of worthy students who have satisfactorily completed at least one year of work in the Uni-

versity and are in need of financial aid in order to finish their courses. Information concerning these funds and the regulations governing loans may be obtained from the office of the Dean of the College. The loans described here are for the exclusive use of students of pharmacy.

Ebert Loan Fund. In 1907, following the death of Mr. Albert E. Ebert who had taken an active part in the development of the College of Pharmacy, the Alumni Association of the College established a fund in memory of Mr. Ebert. Later contributions were made by the Women's Organization of the Chicago Retail Druggists' Association to establish a loan fund. In 1931 the funds were combined into one known as the Albert E. Ebert Loan Fund. The Class of 1932 also contributed to this fund. Loans are made available to deserving students.

Goldenrod Ice Cream Company Loan Fund. Established in 1943, through a gift from the Goldenrod Ice Cream Company of Chicago, this fund provides for loans to students.

Goldstine Emergency Loan Fund. This fund for emergency loans to students was established by the Board of Trustees in 1933. The name was changed in 1943 when the fund was increased by a gift from Mr. Harry Goldstine.

Student Council Emergency Loan Fund. A sum of money available for emergency loans to students in need of financial aid is on deposit with the Chicago Organizational Fund.

Sidney A. Roth Memorial Fund. The Alumni Chapter of the Delta Kappa Sigma Chapter of Rho Pi Phi fraternity has made available an amount equivalent to the tuition and fees for one quarter to students needing financial assistance. The loan is made upon the recommendation of the Dean of the College of Pharmacy.

ORGANIZATIONS

ALUMNI ASSOCIATION OF THE COLLEGE OF PHARMACY

President: RALPH CARPENTER '30, 150 South Michigan Avenue, Villa Park, Illinois

Vice-President: HERBERT A. BERRY '28, 31 Center Street, Hinsdale, Illinois

Treasurer: GEORGE L. WEBSTER '22, 1000 Forest Avenue, Wilmette, Illinois

Secretary: SAMUEL SHKOLNIK '25, 111 West Washington Street, Chicago 2, Illinois

Trustees (in addition to the above officers):

MEYER C. BALIN '25, 3745 West Eastwood Avenue, Chicago 25, Illinois

CLIFFORD GREEN '28, 1223 West Moss Avenue, Peoria 5, Illinois



INFORMATION BOOTH OF THE STUDENT BRANCH OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

JOSEPH A. SANDA '32, 8049 Country Club Lane, North Riverside, Illinois

EDWARD H. DEVINE '34, 1915 Orrington Avenue, Evanston, Illinois

PAUL S. SANG '26, 6835 Paxton Avenue, Chicago 49, Illinois

Representative (on General Alumni Board):

SAMUEL SHKOLNIK '25, 111 West Washington Street, Chicago 2, Illinois

STUDENT BRANCH OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

The Student Branch of the American Pharmaceutical Association is the only organization which offers professional membership to all students in the College of Pharmacy. The organization maintains an active professional program and cooperates with the Chicago Branch of the A. Ph. A. in the development of the annual banquet of that organization. Approximately 70 per cent of the students enrolled in the College of Pharmacy are active members of the association. Seniors in good standing in the Student Branch at the time of their graduation are accorded full membership in the American Pharmaceutical Association until January 1 of the succeeding year.

RHO CHI

Phi Chapter of Rho Chi, national pharmaceutical honor society organized to promote the advancement of the pharmaceutical sciences, is located at

the College of Pharmacy. Students who have completed 115 quarter hours of work of the professional curriculum with an average of at least 4.0 are eligible for membership.

OTHER PHARMACEUTICAL ASSOCIATIONS

The Chicago Branch of the American Pharmaceutical Association, composed of representative pharmacists of Chicago and vicinity, holds its monthly meetings at the College of Pharmacy. Students of the College of Pharmacy are invited to attend.

The College of Pharmacy holds membership in the American Association of Colleges of Pharmacy. The object of the association is to promote the interests of pharmaceutical education, and all institutions holding membership must maintain certain minimum requirements for entrance and graduation. Through the influence of this association, high standards of education are maintained.

PLAN OF INSTRUCTION

Pharmacy is a health profession concerned with the selection, preservation, standardization, preparation, and distribution of drugs and medicinals. It is based on two groups of fundamental sciences, the physical and the biological. Advancements in these sciences have contributed so much to the health professions that it is imperative for the pharmacist to be thoroughly trained in the fundamental sciences as well as in the applied and professional subjects. Accordingly, ample time in the curriculum of the College of Pharmacy is devoted to the physical and biological sciences and other subjects necessary to the practice of pharmacy.

As there are several allied and related fields to which individuals with a pharmaceutical training are particularly adaptable, each student is permitted to elect specialized courses during his four years.

The College of Pharmacy offers the last four professional years of a five-year curriculum leading to the degree of Bachelor of Science in Pharmacy, as summarized on pages 28 and 29. The courses included in the basic curriculum are required of all students. Elective courses for each year are determined through consultation with a faculty counselor.

SIGNIFICANCE OF GRADES OF THE COLLEGE OF PHARMACY

Grades given for work in the College of Pharmacy are as follows: A, excellent; B, good; C, fair; D, poor (but passing); E, failure. Numerical equivalents of these grades on the basis of which averages are made are as follows: each hour of A grade carries 5 grade points; each hour of B grade, 4 grade points; each hour of C grade, 3 grade points; each hour of D grade, 2 grade points; each hour of E grade, 1 grade point.

In addition to the above grades, the following symbols are used. The symbol W indicates withdrawal from the course with permission of the Dean. The grade of E may be given to students withdrawn from the course who were doing unsatisfactory work at the time of withdrawal. Withdrawal because of military service is subject to special regulations. If a student is absent from the final examination without excuse acceptable to the Dean, the symbol Ab is used and counts as a failure. If a student is absent from the final examination with excuse acceptable to the Dean, the symbol Ex is used. The mark of Ex entitles the student to an examination later without fee, but becomes a failure, unless removed at the first opportunity approved by the Dean. The symbol Dr indicates that the student was dropped for academic irregularity and counts as a failure.

In order to qualify for graduation, a student must have completed successfully a minimum of 189 quarter hours of the professional curriculum and earned a minimum of 567 grade points. A minimum grade-point average of 3.0 or C, including work taken elsewhere and accepted for advanced credit, is required for graduation. An average of not less than 3.0 must be attained in work done at the University of Illinois. Failures of required courses in the curriculum must be removed by repeating successfully those courses in which a grade of E is obtained. Where a course is repeated, both the original and subsequent grades are included in the average.

Probationary Status. Any student who failed to attain a 3.0 average in the work for which he receives a grade at the end of a quarter is placed on probation. A student can remove himself from probationary status only upon earning a 3.0 average during his next period of registration. A student who is placed on probation may be required to limit his schedule until probationary status is removed.

Refusal of Further Registration Because of Poor Scholarship. A student who fails to remove himself from probationary status during his next period of registration may be dropped for poor scholarship. A student who receives either unsatisfactory or failing grades in a substantial portion of the work for which he receives a grade at the end of a quarter may be dropped for poor scholarship. A student who receives failing grades in one-half or more of the work for which he receives a grade at the end of a quarter is dropped for poor scholarship. A student who is refused further registration because of poor scholarship may petition the Committee on Student Status and Promotion for readmission. Reconsideration of the case of a student dropped for poor scholarship does not guarantee readmission. Except for unusual circumstances, a student may be reinstated only once.

Promotion to the Next Higher Class. Any student who, at the end of the academic year, has completed substantially all of the normal program, and

has a cumulative grade-point average of 3.0 or better, is promoted to the next higher class. A student who, at the end of the academic year, has a cumulative grade-point average of less than 3.0 may be promoted to the next higher class only with the approval of the Committee on Student Status and Promotion. If a student's cumulative grade-point average is substantially below 3.0, promotion to the next higher class may be withheld.

SUMMARY OF CURRICULUM IN PHARMACY

	FIRST YEAR											
	First Quarter			Second Quarter			Third Quarter			Total		
	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.
Chemistry 111, 112, 113.....	4	4	5	4	4	5	4	4	5	15		
Mathematics 111.....	4	0	4							4		
Pharmacy 110, 113.....	1	0	0				3	3	4	4		
Pharmacy Administration 112, 113.....				4	0	4	4	0	4	8		
Physical Education 101, 102, 103...	3	0	0	3	0	0	3	0	0	0		
Physics 111, 112, 113.....	3	3	4	3	3	4	3	3	4	12		
	15	7	13	14	7	13	17	10	17	43		
Electives.....	3 - 4			3 - 4						49-51		

	SECOND YEAR											
	First Quarter			Second Quarter			Third Quarter			Total		
	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.
Chemistry 121, 122, 123.....	2	8	4	3	3	4	4	4	5	13		
Pharmacy 121, 122, 123.....	3	3	4	3	3	4	2	6	4	12		
Pharmacy Administration 121.....	4	0	4							4		
Zoology 121, 122, 123.....	2	6	4	2	6	4	2	6	4	12		
	11	17	16	8	12	12	8	16	13	41		
Electives.....				3 - 4			3 - 4			46-48		

	THIRD YEAR											
	First Quarter			Second Quarter			Third Quarter			Total		
	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.
Chemistry 232, 342.....	4	0	4	2	6	4				8		
Microbiology 233.....							3	4	4	4		
Pharmacognosy 231, 232, 233.....	3	3	4	3	3	4	3	3	4	12		
Pharmacy 231, 232, 233.....	3	3	4	3	3	4	2	3	3	11		
Pharmacy 234.....							1	0	1	1		
Physiology 232, 233.....				3	3	4	3	3	4	8		
	10	6	12	11	15	16	12	13	16	44		
Electives.....	3 - 4									47-48		

	FOURTH YEAR											
	First Quarter			Second Quarter			Third Quarter			Total		
	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.
Pharmacology 241, 242, 243.....	3	4	4	3	4	4	3	4	4	12		
Pharmacology 244.....				2	0	2				2		
Pharmacy 241, 242, 243.....	3	3	4	3	3	4	3	3	4	12		
Pharmacy Administration 243.....							4	0	4	4		
Zoology 341.....	3	3	4							4		
	9	10	12	8	7	10	10	7	12	34		
Electives.....	3 - 4			6 - 8			3 - 4			46-50		

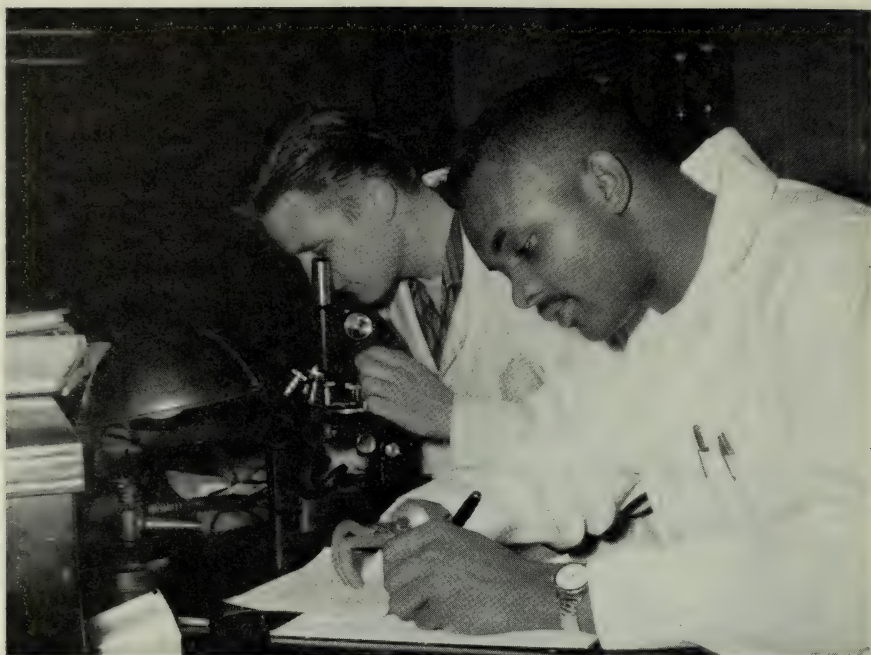
Basic curriculum 162 hours; 189 hours required for graduation.

ELECTIVES AVAILABLE TO BOTH UPPER AND LOWER CLASSMEN

	Didactic	Laboratory	Credit Hours
Chemistry 335.....	3	0	3
Chemistry 336.....	3	4	4
English 110.....	3	0	3
English 115.....	3	0	3
English 205.....	3	0	3
English 220.....	3	0	3
English 225.....	3	0	3
English 230.....	3	0	3
English 235.....	3	0	3
Mathematics 115.....	4	0	4
Mathematics 120.....	4	0	4
Physics 315.....	3	0	3
Psychology 126.....	3	0	3
Psychology 130.....	3	0	3
Sociology 125.....	3	0	3
Zoology 305.....	3	3	4

ELECTIVES AVAILABLE ONLY TO UPPER CLASSMEN

	Didactic	Laboratory	Credit Hours
Chemistry 245.....	..	..	(1-4)
Chemistry 301.....	2	8	4
Chemistry 343.....	2	6	4
Chemistry 345.....	4	0	4
Chemistry 346.....	2	8	4
Chemistry 349.....	2	6	4
Chemistry 350.....	2	8	4
Pharmacognosy 245.....	..	..	(1-4)
Pharmacognosy 301.....	3	3	4
Pharmacognosy 302.....	3	3(6)	4(5)
Pharmacognosy 303.....	2	6(9)	4(5)
Pharmacognosy 306.....	2	3	3
Pharmacognosy 314.....	1	6	3
Pharmacognosy 316.....	3	0	3
Pharmacology 245.....	..	..	(1-4)
Pharmacology 250.....	3	0	3
Pharmacology 310.....	2	6	4
Pharmacy 245.....	..	..	(1-4)
Pharmacy 250.....	1	6	3
Pharmacy 255.....	2	4	3
Pharmacy 260.....	2	8	4
Pharmacy 265.....	2	4	3
Pharmacy 275.....	1	6	3
Pharmacy 280.....	2	0	3
Pharmacy 295.....	1	0	1
Pharmacy 305.....	3	0	3
Pharmacy 310.....	2	4	3
Pharmacy Administration 235.....	4	0	4
Pharmacy Administration 240.....	4	0	4
Pharmacy Administration 245.....	..	..	(1-4)
Pharmacy Administration 255.....	4	0	4
Physics 325.....	2	4	3
Zoology 215.....	3	3	4
Zoology 245.....	..	..	(1-4)
Zoology 295.....	1	0	1
Zoology 310.....	3	3	4
Zoology 315.....	3	3	4



LABORATORY EXERCISE IN HISTOLOGY

COURSES OF INSTRUCTION

The following list of subjects is arranged by departments. The description of each course includes a statement of the number of lectures, recitations, or laboratory periods each week (each period being fifty minutes unless otherwise specified). The number of didactic periods and laboratory hours are shown in the summary of the curriculum, which also shows the credit in quarter hours. In the description of each course the quarter during which it is given is indicated by a Roman numeral, "I" for the first quarter, "II" for the second quarter, and "III" for the third quarter, followed by an Arabic numeral in parentheses indicating the number of credit hours. For example, "I, (3)" means that the course is given in the first quarter for three hours of credit. The expression "I, II, or III" is used if the course may be taken in any quarter.

CHEMISTRY

111, 112, 113. **Organic Chemistry.** This course provides a study of the nomenclature, occurrence, uses, physical properties, synthesis, and reactions of organic compounds. The treatment is based on the functional groups of the acyclic, alicyclic, aromatic, and heterocyclic compounds, and includes a consideration of polyfunctional compounds, fats, peptides, carbohydrates, and

macromolecules. Concepts of stereoisomerism, resonance, reaction mechanisms, and organic theory are used to illustrate the course material. Three lectures, one recitation, and one four-hour laboratory period each week. I, (5), II, (5) and III, (5). These courses must be taken in sequence. Prerequisite: Inorganic chemistry, qualitative analysis, college algebra, and trigonometry.

121. **Quantitative Analysis.** The principles, theories, and techniques of volumetric analysis as related to acidimetry and alkalimetry. Oxidation-reduction and precipitation reactions are discussed. Selected laboratory exercises illustrate the principles and theories involved in each type of reaction. Two lectures and two four-hour laboratory periods each week. I, (4). Prerequisite: Mathematics 111; inorganic chemistry and qualitative analysis.
122. **Introduction to Physical Chemistry.** This introductory course outlines the scope of physical chemistry and its relationships and applications to other fields of science. It considers the physicochemical behavior of gases, liquids, and solutions, with special reference to biological phenomena. Physiological aspects of oxidation-reduction, osmotic pressure, electrolytic dissociation, and the properties of colloids are discussed. Three lectures or recitations and one three-hour laboratory period each week. II, (4). Prerequisite: Chemistry 113, 121; Physics 111, 112, 113; Mathematics 111.
123. **Biological Chemistry.** General biochemistry presented at an introductory level considers the chemistry of living cells and tissues including the metabolic changes taking place in these labile systems. Replacement reactions, energetics, enzymes, vitamins, and hormones are discussed. Four lectures and one four-hour laboratory period each week. III, (4). Prerequisite: Chemistry 122.
232. **Drug Assaying.** Basic scientific principles are applied to the standardization and analysis of drugs and pharmaceutical products. Applications of the newer analytical techniques of chromatography, colorimetry, spectrophotometry, and nonaqueous titrations to the control of pharmaceutical products are presented. Two lectures and two three-hour laboratory periods each week. II, (4). Prerequisite: Chemistry 113, 121.
245. **Senior Research in Chemistry.** The student investigates, under the direction of one or more faculty members, a chemical problem of limited scope. The investigation may include experimentation and library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.
301. **Systematic Identification of Organic Compounds.** The physical and chemical properties, classification, reactions, and methods of synthesis of typical derivatives are employed in the identification of organic compounds. Special conferences and a minimum of eight hours of laboratory work each week. II or III, (4). Prerequisite: Chemistry 113, 122.

- 335, 336. Physical Chemistry.** Atomic and molecular structure, chemical thermodynamics, phase equilibria, chemical equilibria, surface chemistry, electrochemistry, and chemical kinetics are discussed in this two-quarter course. Three class meetings in Chemistry 335 each week and three class meetings and one four-hour laboratory in Chemistry 336 each week. Chemistry 335, III, (3); Chemistry 336, I, (4). Prerequisite: Chemistry 113, 121, 122; Physics 112, 113; Mathematics 115.
- 342. Chemistry of Medicinals.** Modern synthetic drugs are studied with regard to their nomenclature, methods of synthesis, and relation to other drugs having similar therapeutic, physical, and chemical properties. Four lectures each week. I, (4). Prerequisite: Chemistry 113.
- 343. Chemical Toxicology.** The common sources, chemistry, methods of isolation, and identification of toxic agents commonly encountered as industrial hazards or as the cause of accidental or purposeful poisoning are discussed. Two lectures and two three-hour laboratory periods each week. III, (4). Prerequisite: Chemistry 113; Pharmacology 244.
- 345. Chemistry of Natural Products.** The occurrence, origin, biological significance, nomenclature, physical and chemical properties, methods of isolation, and pharmaceutical uses of important natural substances are studied. Particular attention is given to the sugars, sugar alcohols, polyhydroxyacids, gums, mucilages, pectins, glycosides, fats, waxes, steroids, hormones, alkaloids, vitamins, enzymes, essential oils, and resins. Four lectures each week. I or II, (4). Prerequisite: Chemistry 113, 123.
- 346. Organic Chemistry.** This course is a continuation of the study of organic chemistry with practice in and emphasis on the application of general and special reactions to the synthesis of drugs and chemicals. Two lectures and two four-hour laboratory periods each week. I or II, (4). Prerequisite: Chemistry 113, 122.
- 349. Pharmaceutical Assaying.** Chemical and physical methods of analyzing raw materials and dosage forms of medications are discussed. The principles of sampling and the methods of quantitatively separating active compounds from inactive diluent or vehicles are given special considerations. Two class meetings and two three-hour laboratory periods each week. II or III, (4). Prerequisite: Chemistry 232.
- 350. Instrumental Analysis.** The principles, methods, and techniques of analytical chemistry using modern electrical and electronic instruments are studied. Two lectures and two four-hour laboratory periods each week. II, (4). Prerequisite: Chemistry 121, 122.

ENGLISH

- 110. Introduction to Poetry and the Drama.** Selected dramas and various types of poetry are studied and considered as art forms. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric.

- 115. Introduction to Prose Fiction.** The serious novel and short story are introduced, and representative examples in both categories are read and discussed. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric.
- 205. Report Writing.** This course provides an opportunity to study the writing of reports based on research, field surveys, and other data. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric.
- 220. Survey of English Literature since 1800.** The writings of some of the principal figures of British literature in the nineteenth and twentieth centuries are examined. Reading assignments include the works of such authors as Wordsworth, Byron, Carlyle, Tennyson, Browning, Huxley, Hardy, Thackeray, and Shaw. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric. English 115 is preferred but not required.
- 225. Survey of American Literature from the Civil War to the Present.** Examples of American writing from the Civil War to the present time are discussed. Reading assignments include representative literary works with selections from significant critical writing. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric. English 115 is preferred but not required.
- 230. The American Novel.** An historical and critical survey of the development of American prose fiction is presented. It includes intensive reading of such major American authors as Cooper, Melville, James, Hemingway, Faulkner, and others. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric. English 115 is preferred but not required.
- 235. The Contemporary Novel.** The course provides critical survey of the chief British and American novelists from 1900 to the present time. A comprehensive reading of major authors to show significant trends in modern prose fiction is required. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric. English 115 is preferred but not required.

MATHEMATICS

- 111. Introduction to Analytical Geometry and Calculus.** Coordinate systems, straight lines, functions and graphs, derivatives and integrals of polynomials are presented. This course is designed to provide background for required science courses. Four class meetings each week. I, (4). Prerequisite: College algebra and plane geometry.
- 115. Analytical Geometry and Calculus.** The applications of differentiation and integration; derivatives and integrals of logarithmic, exponential, and trigonometric functions are included in this course. This course is designed for students desirous of electing advanced chemistry and pharmacy courses. Four class meetings each week. II, (4). Prerequisite: Mathematics 111.
- 120. Mathematical Statistics.** This course includes discussions of graphs and tabular presentation of frequency distributions, measures of central tendency

and dispersion, probability, correlation, introduction to sampling and test significance. It is designed for students interested in manufacturing pharmacy and the biological sciences. Four class meetings each week. III, (4). Prerequisite: College algebra and plane trigonometry.

MICROBIOLOGY

233. **Microbiology.** The characteristics of bacteria, yeasts, and molds; their relation to disease; biologic products and antibiotics prepared from them. Action of antiseptics, disinfectants, and sterilizants are presented. The laboratory work includes the preparation of cultures and stained mounts, isolation and identification of organisms from mixed cultures, and antibiotics. Three lectures and two two-hour laboratory periods each week. III, (4). Prerequisite: Chemistry 123; Zoology 123.

PHARMACOGNOSY

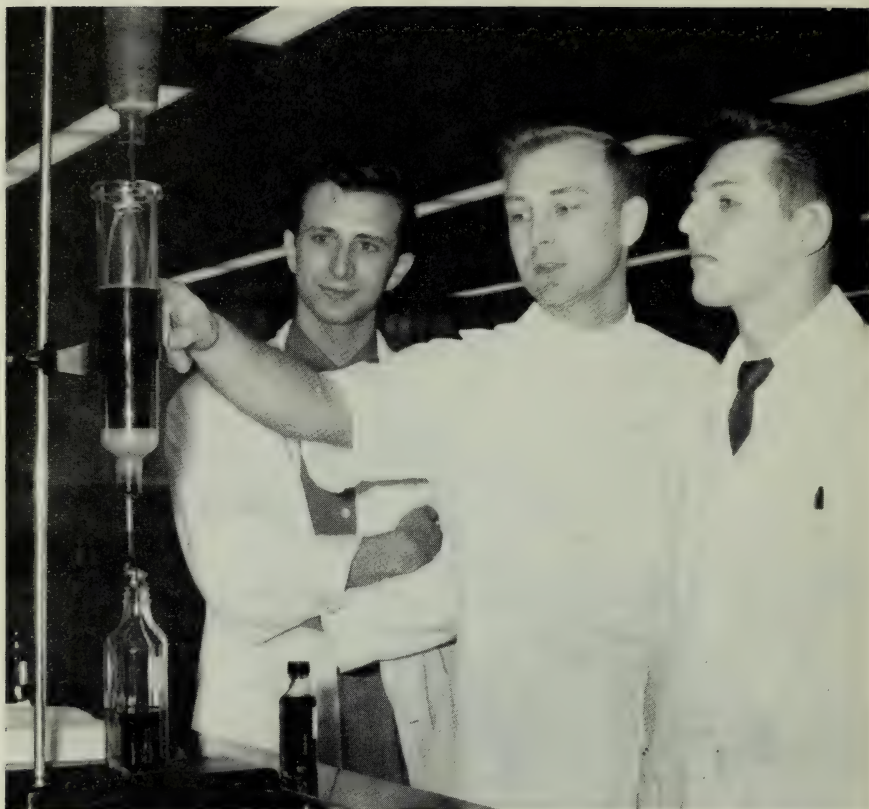
- 231, 232, 233. **Principles of Pharmacognosy.** The fundamental botany and pharmacognosy of the principal drugs of vegetable and animal origin are studied by means of lectures, laboratory work, and field trips. Related products of economic importance bearing upon the health of man and animal are considered. Three lectures and one three-hour laboratory period each week. I, (4); II, (4); III, (4). These courses must be taken in sequence. Prerequisite: Chemistry 123; Zoology 123.
245. **Senior Research in Pharmacognosy.** The student investigates, under the direction of one or more faculty members, a problem of limited scope in pharmacognosy. The investigation may include experimentation and library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.
301. **Plant Anatomy.** Vascular plants are studied microscopically. Particular attention is given to the development and evaluation of the vascular systems in all parts of the plant. Three lectures and one three-hour laboratory period each week. I or II, (4). Prerequisite: Pharmacognosy 233.
302. **Plant Physiology.** Life processes in plants, with particular attention to the cell as the fundamental functional unit, are discussed. The basic principles of plant metabolism are emphasized in relation to essential elements, energy relationship, and other environmental factors. Three lectures or conferences and one three-hour laboratory period each week, I or II, (4); or three lectures and two three-hour laboratory periods each week, I or II, (5). Prerequisite: Pharmacognosy 233.
303. **Systematic Pharmacognosy.** A taxonomic study of the flowering plants, with particular emphasis upon those of drug importance is provided. Relationship of the principal orders and families, rules of nomenclature, and systems of classification are considered. Laboratory work includes identification of species, together with the collection, identification, and preservation of drug

plant specimens. Two lectures and two three-hour laboratory periods each week, II or III, (4); or two lectures and three three-hour laboratory periods each week, II or III, (5). Prerequisite: Pharmacognosy 233.

- 306. Pharmacognosy of the Allergens.** The identification and distribution of hay fever plants is discussed. The course includes an atmospheric survey and the study of wind-borne pollen and fungi spores. Two lectures and one three-hour laboratory period each week. III or summer, (3).
- 314. Histological Techniques.** The theoretical and practical development of the knowledge and skills essential to the preparation of biological materials for microscopic study are considered. One lecture and two three-hour laboratory periods each week. I or II, (3). Prerequisite: Pharmacognosy 233 or permission of the departmental faculty.
- 316. Commercial Pharmacognosy.** The traffic in crude drugs and related products are examined with consideration of the basic principles governing the production, distribution, and consumption of these materials. Three lectures or conferences each week. I, (3). Prerequisite: Pharmacognosy 233.

PHARMACOLOGY

- 241, 242, 243. Pharmacology.** The factors underlying the applications of pharmacologic principles and agents to therapeutic problems are considered. Lectures and discussions are directed to an understanding of the mechanisms and sites of drug actions. Emphasis is placed upon the relationships of physiology, biochemistry, and pathology to the therapeutic applications of drug agents. Three lectures and one four-hour laboratory period each week. I, (4); II, (4); III, (4). These courses must be taken in sequence. Prerequisite: Physiology 233; Chemistry 123; Microbiology 233.
- 244. Emergency Aid.** The role of the community pharmacist with respect to the legal and ethical codes as they apply to emergencies arising in the practice of the profession are outlined. Emphasis is placed upon the description, prevention, and temporary relief measures of emergencies arising from accidents, minor afflictions, self-inflicted injuries, disasters, and national conflicts. Two lectures or conferences each week. II, (2). Prerequisite: Pharmacology 241.
- 245. Senior Research in Pharmacology.** The student investigates, under the direction of one or more faculty members, a pharmacologic problem of limited scope. The investigation may include experimentation and library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.
- 250. Veterinary Pharmacology.** A course designed to acquaint the pharmacist with the application, mechanism of action, and dangers of drugs used in the areas of agriculture and veterinary medicine. Three lectures each week. III, (3). Prerequisite: Pharmacology 242.



EXTRACTION EXPERIMENT IN PHARMACY

310. Bioassay. Official, industrial, and general bioassay procedures are studied with emphasis on their applicability. Their reliability is considered on a statistical basis. Laboratory demonstration periods emphasize the designing, setting-up, and analysis of representative bioassay preparations. Two lectures and two three-hour laboratory demonstration periods each week. II or III, (4). Prerequisite: Pharmacology 241 and permission of departmental faculty.

PHARMACY

110. Orientation to Pharmacy. A series of lectures or discussions intended to introduce the student to the scope and opportunities in the field of pharmacy are presented. Opportunities in research, selling, manufacturing, and hospital pharmacy as well as those in retail practice are included. One class meeting each week. I or II. While successful completion of this course is required, credit toward graduation is not granted.

113. General Pharmacy. The nomenclature, literature, mathematics, and general

processes of pharmacy are presented. Two lectures, one recitation, and one three-hour laboratory period each week. III, (4).

- 121. Inorganic Pharmacy.** This course is a survey of the various inorganic compounds of pharmaceutical importance based on the periodic arrangement of the elements. Emphasis is placed on the physical and chemical properties of pharmaceutical significance, as well as the medicinal uses. Two lectures, one recitation, and one three-hour laboratory period each week. I, (4). Prerequisite: Pharmacy 113.
- 122. Pharmaceutical Preparations, I.** The simpler classes of pharmaceutical preparations are discussed. Included are such classes of preparations as waters, solutions, syrups, etc. Three lectures or recitations and one three-hour laboratory period each week. II, (4). Prerequisite: Chemistry 113; Pharmacy 121.
- 123. Elementary Physical Pharmacy.** The principles and laws of physical chemistry are applied to the preparation and study of dosage forms. Two lectures, one recitation, and one three-hour laboratory period each week. I, (4). Prerequisite: Chemistry 122; Pharmacy 122.
- 231. Pharmaceutical Preparations, II.** The study of pharmaceutical preparations started in Pharmacy 122 is extended to the more complex formulations. It includes the discussion of preparations in which the process of extraction is involved (i.e., tinctures, fluidextracts, and extracts). Two lectures or recitations and two three-hour laboratory periods each week. III, (4). Prerequisite: Pharmacy 122.
- 232. Pharmacy Technology.** The more complex drug products are discussed in regard to ingredients, formulation, and preparation. Raw materials are grouped according to their pharmaceutical properties and usage. Comparative discussion of the preparation of products by small scale mechanized and extemporaneous methods are presented in lectures and in the laboratory. Two lectures, one recitation, and one three-hour laboratory or demonstration period each week. II, (4). Prerequisite: Pharmacy 231.
- 233. Special Pharmaceutical Formulations.** Pharmaceutical dosage forms applicable to dentistry, animal, and allied health professions are discussed. Two class meetings and one three-hour laboratory period each week. III, (3). Prerequisite: Pharmacy 232.
- 234. Therapeutic Aids and Prosthetics.** This course presents a discussion of the items supplied by pharmacies for use in the treatment or management of the sick or injured patient. Sickroom supplies, bandages, hypodermic syringes and needles, crutches, splints, and oxygen equipment are included. One class meeting each week. III, (1). Prerequisite: Second-year standing.
- 241, 242, 243. Dispensing.** The technics necessary for the extemporaneous compounding of prescriptions and the dispensing of preformed medicinal products are discussed. Laboratory work provides practical experience in the



JUNIOR-SENIOR PHARMACY DISPENSING LABORATORY

compounding and dispensing of medicinal preparations. Two lectures and two three-hour laboratory periods each week. I, (4); II, (4); III, (4). These courses must be taken in sequence. Prerequisite: Pharmacy 233.

245. **Senior Research in Pharmacy.** The student investigates, under the direction of one or more faculty members, a pharmaceutical problem of limited scope. The investigation may include experimentation and library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.
250. **Hospital Pharmacy Practice.** This course provides discussions and experience in hospital pharmacy management and practice. One conference period and six hours of practice in hospital pharmacy each week. I, II, or III, (3). Prerequisite: Fourth-year standing.
255. **Manufacturing Pharmacy.** The small scale mechanized methods of the preparation of the drug and cosmetic products involved in the manufacturing requirements of professional and hospital pharmacies are presented. Two lectures and one four-hour laboratory period each week. I and II, (3). Prerequisite: Pharmacy 232.

- 260. Introduction to Industrial Pharmacy.** This course offers discussion and practice in the development, production, quality control, and production control of pharmaceutical products. Problems involved in both pilot plant and large-scale production are considered. The equipment and facilities necessary for such operations are discussed. Two lectures and two four-hour laboratory periods each week. II or III, (4). Prerequisite: Pharmacy 255.
- 265. Sterile Product Technology.** The principles of formulation and production of sterile products are presented. Two lectures and one four-hour laboratory period each week. III, (3). Pharmacy 255.
- 275. Cosmetics.** The composition, formulation, and manufacture of selected types of cosmetics are considered. Problems of perfuming, coloring, packaging, and preservation are discussed. One lecture and two three-hour laboratory periods each week. I, II, or III, (3). Prerequisite: Third-year or fourth-year standing.
- 280. History of Pharmacy.** The history of the profession of pharmacy is studied. Library research on pharmaceutical subjects is required. Two class meetings each week. I, II, or III, (3). Prerequisite: Third-year or fourth-year standing and permission of the departmental faculty.
- 295. Seminar in Pharmacy.** The seminar is designed to provide a training period in reading, abstracting, outlining, and presenting current pharmaceutical literature. One class meeting each week. I, II, or III, (1). Prerequisite: Fourth-year standing.
- 300. Hospital Pharmacy.** Study and practice of the administrative and operational aspects of hospital pharmacies. One lecture and nine hours practice each week. I, II, or III, (4).
- 305. Physical Pharmacy.** Physicochemical principles and laws are applied to the study of pharmaceutical dosage forms. Special emphasis is placed on the relationship of chemical kinetics and catalysis to pharmaceutical incompatibilities and stability. Three lectures each week. I, (3). Prerequisite: Pharmacy 231; Chemistry 336.
- 310. Pharmaceutical Manufacturing Unit Operations.** The theory of operation and the design of the equipment used to carry out the unit operations basic to industrial pharmaceutical manufacturing is presented. Two lectures and one four-hour laboratory period each week. I, II, or III, (3). Prerequisite: Permission of the departmental faculty.

PHARMACY ADMINISTRATION

- 112. Principles of Accounting.** Fundamentals of accounting practice are discussed and applied to retail pharmacy. The discussions include methods applicable to stores operating as individual proprietorships or as partnerships. Four class meetings each week. II, (4).



MANUFACTURING PHARMACY LABORATORIES

113. **Elements of Economics.** This course provides a general survey of the operation of the economic system with reference to the business firm, the determination of price and output, the level of national income and the general price level, the monetary and banking system, government finance, competing economic ideologies, and the economics of health. Four class meetings each week. III, (4).
121. **Principles of Marketing.** The functions, commodities, and middlemen involved in the marketing of goods and services are discussed. Attention is given to the marketing policies and problems involved in the operation of institutions engaged in producing and distributing pharmaceutical products. Four class meetings each week. I, (4). Prerequisite: Pharmacy Administration 112, 113.
235. **Pharmaceutical Promotion and Selling Methods.** The fundamentals and technic of promoting and selling pharmaceutical products are examined. Consideration is given to promotional methods and personal selling in marketing activities of manufacturers, wholesalers, and retailers. Four class meetings each week. I, (4). Prerequisite: Pharmacy Administration 121.
240. **Retail Pharmacy Management.** The operational problems of the retail pharmacy from the viewpoint of those responsible for management decisions are

considered. Topics discussed include store establishment and organization; buying, pricing, and selling methods; merchandise planning; expense control; personnel selection and management; and financial analysis. Four class meetings each week. III, (4). Prerequisite: Pharmacy Administration 121.

- 243. Pharmacy Law.** The laws and regulations relating to the practice of pharmacy and the principles of common law bearing upon the work and responsibilities of the pharmacist are presented. Four lectures or recitations each week. III, (4). Prerequisite: Fourth-year standing.
- 245. Senior Research in Pharmacy Administration.** The student investigates, under the direction of one or more faculty members, a problem of limited scope in this field. The investigation may require library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.
- 255. Principles of Business Law.** The principles of business law covering the subjects of contracts, sales, negotiable instruments, agency and business organizations are discussed. Four lectures or recitations each week. II, (4). Prerequisite: Pharmacy Administration 112, 113.

PHYSICAL EDUCATION

- 101, 102, 103. Physical Education.** The program is designed to develop physical fitness and skills in various recreational activities. Students scoring low on a motor fitness test are assigned to a developmental class. I, II, and III, (1). Credit for these courses is required of all first-year students in the College of Pharmacy. Credit may not be used for graduation.

PHYSICS

- 111, 112, 113. General Physics.** This course presents a study of the fundamental concepts and laws of physics and is designed to give a thorough presentation of the basic principles of classical physics as well as of the more recent developments. Attempts are made to apply the theoretical matter to practical problems. Two lectures, one recitation, and one three-hour laboratory period each week. I, (4); II, (4), III, (4). Prerequisite: College algebra and plane trigonometry. Physics 111 is a prerequisite to either Physics 112 or 113.
- 315. Modern Physics.** Basic tenets of relativity and quantum theories are presented. Topics discussed include elementary particles as well as atomic and nuclear structure. The biological and chemical implications of physics are stressed. Three lectures each week. II or III, (3). Prerequisite: Physics 113; Mathematics 111.
- 325. Pharmaceutical Radiology.** The properties and methods of the detections of radiations are discussed. The use of tracers in radiobiology, medicine, and chemistry, including the applications to therapy and health physics, are included. Methods of assaying and dispensing radioactive pharmaceuticals

are emphasized. Two lectures and one four-hour laboratory period each week. II, (3). Prerequisite: Physics 113; Pharmacy 123.

PHYSIOLOGY

232. Human Physiology. The physiology of blood, heart and circulation, respiration, gastrointestinal tract and liver, kidney, skin, and water balance is discussed. Three lectures or recitations and one three-hour laboratory period each week. II, (4). Prerequisite: Zoology 123; Chemistry 123.

233. Human Physiology. The physiology of endocrines, heat regulation, nutrition and metabolism, muscle and nerve, central and autonomic nervous systems, and senses is discussed. Three lectures or recitations and one three-hour laboratory period each week. III, (4). Prerequisite: Physiology 232.

PSYCHOLOGY

126. Introductory Psychology. Introductory analysis and description of human behavior. The course systematically considers biological and social aspects of behavior, growth and development, motivation, emotion and adjustment, personality and its appraisal, learning and perception. Three lectures or recitations each week. I, II, or III, (3).

130. Applied Psychology. This course is concerned with the application of the principles of psychology to industry, business, and emotional adjustments. The areas considered include industrial efficiency, advertising techniques, employee and executive selection, detection and treatment of criminals and delinquents, techniques of diagnosis, and principles of personal adjustment. Three class meetings each week. I, II, or III, (3). Prerequisite: Psychology 126.

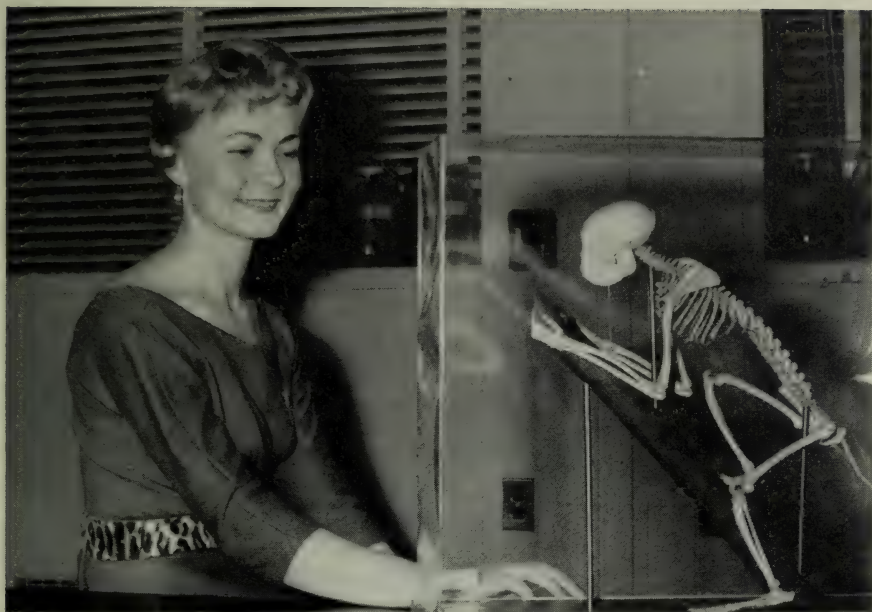
SOCIOLOGY

125. Introductory Sociology. This course serves as an introduction to the basic structure and the principal forces which influence human society. The fundamental aspects of social organization, culture, socialization and personality, social interaction, collective behavior, and social change are considered. Three lectures or recitations each week. I, II, or III, (3).

ZOOLOGY

121. General Zoology. This course introduces the student to the basic biologic principles of cytology, metabolism, embryology, anatomy, genetics, and evolution as illustrated by the major animal phyla. Two lectures and two three-hour laboratory periods each week. I, (4).

122, 123. Mammalian Zoology and Histology. The structure of man and other mammals as correlated with function is studied. The didactic work is accompanied by the dissection of the cat and the study of histological sections of selected tissues. The fundamentals of mammalian embryology, evolution, adaptation, distribution, and classification are also presented. Two lectures and two three-hour laboratory periods each week. II, (4); III, (4). These courses must be taken in sequence. Prerequisite: Zoology 121.



A STUDY IN ANTHROPOLOGY

- 215. General Entomology.** This introductory course stresses the recognition, life histories, morphology, physiology, and distribution of insects and related forms. It provides a background for an understanding of control by the use of insecticides and other means. Three lectures and one three-hour laboratory period each week. II, (4). Prerequisite: Zoology 121.
- 245. Senior Research in Zoology.** The student investigates, under the direction of one or more faculty members, a zoological problem of limited scope. The investigation may include experimentation and library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.
- 295. Seminar in Biology.** The student is required to present a paper resulting from a survey of the literature dealing with a specific topic in biology. I, II, and III, (1 to 3). May be elected for one hour credit in each of three quarters. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.
- 305. Invertebrate Zoology.** This course stresses the morphology, physiology, life cycles, and ecology of free-living invertebrates. It includes laboratory and field work. Three lectures and one three-hour laboratory period each week. II or III, (4). Prerequisite: Zoology 121.



BIOLOGICAL SCIENCES LABORATORY

Zoology, Mammalian Anatomy, Histology, Entomology, and Pharmacognosy

- 310. Genetics.** This course considers the fundamental principles of biological inheritance and the application of these in the study of plant and animal life. Three lectures and one three-hour laboratory period each week. II, (4). May be elected in the fourth year only. Prerequisite: Zoology 123.
- 315. Anthropology.** The place and role of man in nature are analyzed by a study of the origins and evolution of the Primates in general and of the Hominidae in particular, by studying the evolution of human cultures, and by a comparative study of contemporary societies. Three lectures and one three-hour laboratory period each week. III, (4). Prerequisite: Zoology 123; Sociology 125.
- 341. Parasitology and Public Health.** The vertebrates and invertebrates responsible for, or involved in, the transmission of diseases of man and domestic animals are studied. The epidemiology of viral, bacterial, protozoan, and helminthic diseases is stressed, with particular attention given to the various patterns of survival and spread of the parasites and their entry and exit from the host. The Protozoa, Helminths, and Arthropods are used to illustrate the biology of host-parasite and other interspecific biological relationships. Venomous arthropods and reptiles are also considered to complete the study of animals injurious to human health. Three lectures and one three-hour laboratory period each week. I, (4). Prerequisite: Microbiology 233.

¹See Graduate College catalog for courses offered to graduate students.)

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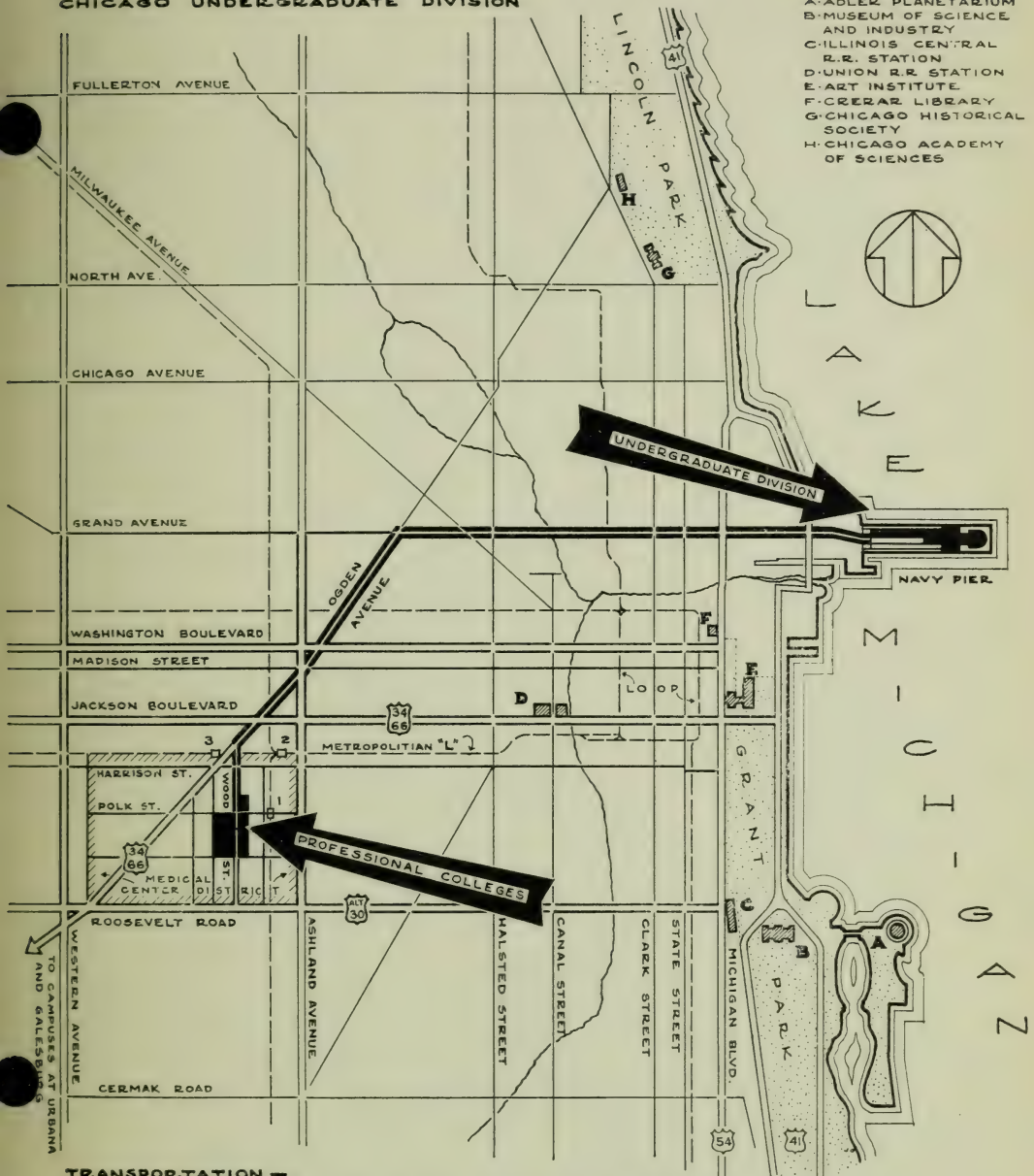
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UNIVERSITY OF ILLINOIS

CHICAGO PROFESSIONAL COLLEGES
CHICAGO UNDERGRADUATE DIVISION

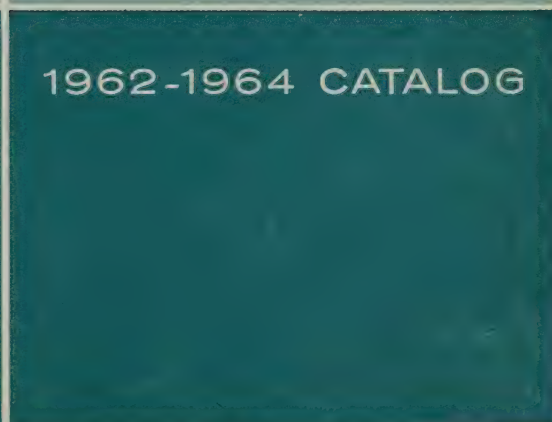
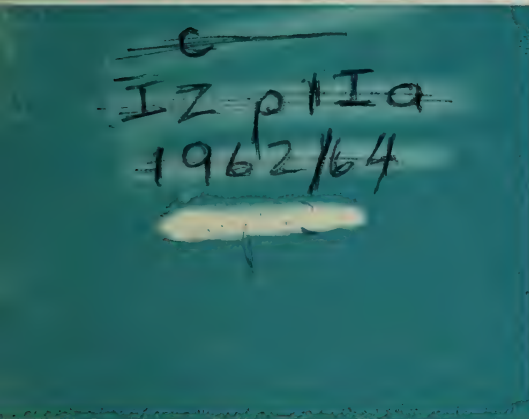
LEGEND -

- A-ADLER PLANETARIUM
- B-MUSEUM OF SCIENCE AND INDUSTRY
- C-ILLINOIS CENTRAL R.R. STATION
- D-UNION R.R. STATION
- E-ART INSTITUTE
- F-CRERAR LIBRARY
- G-CHICAGO HISTORICAL SOCIETY
- H-CHICAGO ACADEMY OF SCIENCES



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FEEDER BUS - POLK & WOOD STREETS, TRANSFER GRAND AVE. STREET CAR.
STREET CAR - ASHLAND CAR ON PAULINA ST., TRANSFER GRAND AVENUE.
"L" STATIONS: 1-POLK ST. 2-MARSHFIELD 3-OGDEN AVE., ALL TRAINS TO LOOP,
TRANSFER STONY ISLAND STREET CAR.



COLLEGE OF PHARMACY
UNIVERSITY OF ILLINOIS
1962-1964 CATALOG

Published by the University of Illinois, 833 South Wood Street, Chicago 12, Illinois

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CALENDAR

1962 — FALL QUARTER

September 20, 21.....Registration and orientation
September 24, Monday.....First day of classes
November 22, 23.....Thanksgiving recess
December 15, Saturday, 12:00 noon.....Fall quarter ends

1963 — WINTER QUARTER

January 2, Wednesday.....First day of classes
March 16, Saturday, 12:00 noon.....Winter quarter ends

1963 — SPRING QUARTER

March 25, Monday.....First day of classes
May 30, Thursday.....Memorial Day
June 8, Saturday, 12:00 noon.....Spring quarter ends

1963 — SUMMER QUARTER

June 17, Monday.....First day of classes
July 4, Thursday.....Independence Day
July 27, Saturday, 12:00 noon.....First six-week summer term ends
July 29, Monday.....Second six-week summer term begins
September 2, Monday.....Labor Day
September 7, Saturday, 12:00 noon.....Second six-week summer terms ends

12 p. 1
1962/63

1963 — FALL QUARTER

September 26, 27.....Registration and orientation
September 30, Monday.....First day of classes
November 28, 29.....Thanksgiving recess
December 21, Saturday, 12:00 noon.....Fall quarter ends

1964 — WINTER QUARTER

January 6, Monday.....First day of classes
March 21, Saturday, 12:00 noon.....Winter quarter ends

1964 — SPRING QUARTER

March 30, Monday.....First day of classes
May 30, Saturday.....Memorial Day
June 13, Saturday, 12:00 noon.....Spring quarter ends

1964 — SUMMER QUARTER

June 22, Monday.....First day of classes
July 4, Saturday.....Independence Day
August 1, Saturday, 12:00 noon.....First six-week summer term ends
August 3, Monday.....Second six-week summer term begins
September 7, Monday.....Labor Day
September 12, Saturday, 12:00 noon.....Second six-week summer term ends



BUILDING LOBBY

COLLEGE OF PHARMACY

LOCATION, HISTORY, AND ADMINISTRATION

LOCATION

The College of Pharmacy of the University of Illinois is located in the great medical center on the west side of Chicago. The work of the College of Pharmacy is centralized in the new East Unit of the Dentistry-Medicine-Pharmacy Building at 833 South Wood Street. The work of the Colleges of Dentistry and Medicine, the Graduate College, and the College of Nursing is centralized in the Dentistry-Medicine-Pharmacy Building which faces on Polk, Wood, and Wolcott Streets. The campus of the University of Illinois at the Medical Center, which is located about three miles from the Loop, or main business district of the city, can be reached conveniently by elevated train, bus, or automobile.

The University of Illinois Research and Educational Hospitals located at 840 South Wood Street and the Presbyterian-St. Luke's Hospital located at 1753 West Congress Street provide excellent facilities for the teaching of hospital pharmacy to both undergraduate and graduate students.

The Drug Plant Experiment Station, located at Lisle, Illinois, provides a unique opportunity for the development of drug plant research and the training of graduate students who are majoring in the field of pharmacognosy. The facilities of the Station are augmented by the very extensive plant culture programs of the Morton Arboretum.

HISTORY

The College of Pharmacy was originally an independent proprietary institution before becoming affiliated with the University of Illinois, having been organized as the Chicago College of Pharmacy on September 5, 1859. It was established eight years before the University itself was incorporated and was the fifth institution of its kind in the United States. Activities were suspended during the Civil War, and the College was not reopened until 1870. When its property was destroyed by the Chicago fire of 1871, the pharmacists of the world promptly came to the rescue, those of Great Britain in particular. They enabled the College to reopen again in 1872, with new equipment, including a library, much better than before. In 1896, it became the School of Pharmacy of the University of Illinois, and in 1932 its name was changed to the College of Pharmacy when the cur-

riculum leading to the degree of Bachelor of Science in Pharmacy was announced. In 1939-1940 the College of Pharmacy was moved to quarters in the Dentistry-Medicine-Pharmacy Building at 808 South Wood Street, from 715 South Wood Street.

Teaching and research facilities of the College were greatly expanded by the completion and occupancy of a new classroom and laboratory building prior to the opening of the fall quarter of 1954. The new six-story East Unit of the Dentistry-Medicine-Pharmacy Building at 833 South Wood Street now provides administrative and general offices for the College of Pharmacy, lecture halls, classrooms, manufacturing, research, teaching, and dispensing laboratories, storage space for both teaching and research materials, and space for 800 student lockers. The curriculum consists of five years of academic training, the first of which may be taken in any accredited junior college, college, or university, followed by four years of professional instruction at the Chicago campus. The College of Pharmacy maintains a program of postgraduate teaching which enables students to earn advanced degrees in chemistry, pharmacy, and pharmacognosy. It also has established refresher courses which enable the University to render state-wide services to the 4,200 community pharmacies and the 9,000 pharmacists of the state.

ADMINISTRATION

Under the laws of the state of Illinois, the Board of Trustees of the University of Illinois is composed of eleven members, including the Governor and the Superintendent of Public Instruction who serve *ex-officio* and nine members elected by the people of the state for terms of six years.

Under the University Statutes adopted by the Board of Trustees, the affairs of the University are administered by the President, the Executive Vice-President and Provost, the Vice-President at the Medical Center, the Vice-President at the Chicago Undergraduate Division, the deans and directors of the colleges and schools, and other administrative officers. The Medical Center campus consists of the College of Dentistry, the College of Medicine, the College of Pharmacy, and the College of Nursing, each having its own dean, and all being under the general supervision of the Vice-President at the Medical Center.

Graduate work at the University of Illinois at the Medical Center is conducted by a division of the Graduate College under the supervision of an Associate Dean. The present work of the Graduate College is described in detail in a separate announcement.

A senate is constituted at each campus of the University and consists of the full professors, the deans of colleges, the directors of schools and institutes, the heads and chairmen of departments, and elected members

from each faculty. Any faculty member elected to a senate committee is a member of the senate during his committee membership.

Members of the faculty in each college cooperate with those in other colleges of the University, both in instruction and in research. Staff members of the basic science departments in the College of Medicine also give instruction for students of dentistry, pharmacy, nursing, and occupational therapy.

ACCREDITATION

The College of Pharmacy of the University of Illinois is fully accredited by the American Council on Pharmaceutical Education. The Council is the only accrediting agency for the profession of pharmacy, and is an affiliate of the American Council on Education.

LIBRARY

The library's collection is a comprehensive one of standard and modern works on dental, medical, nursing, pharmaceutical, social work, and allied scientific subjects, with some 2,000 current periodicals and more than 150,462 volumes on its shelves. Its facilities are available for reference use and most materials may be withdrawn for use outside the reading rooms.

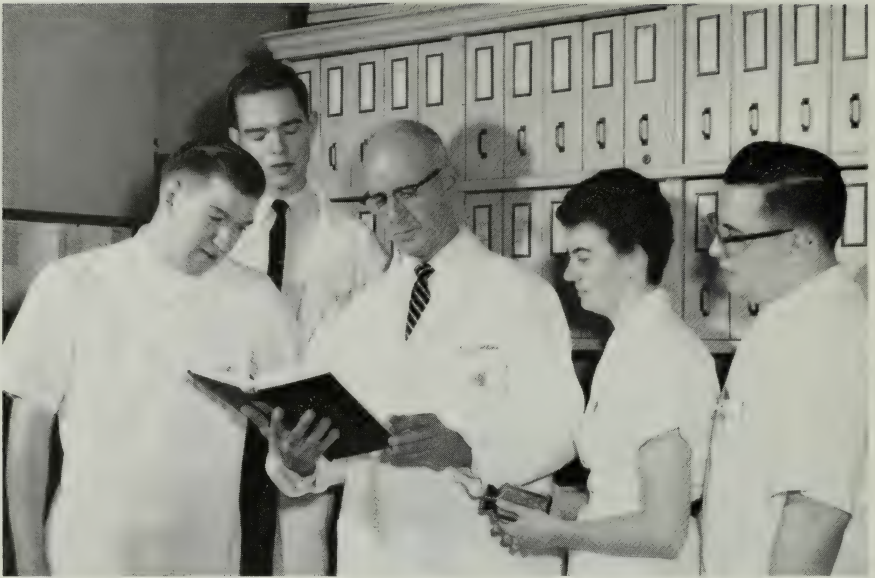
RECREATIONAL FACILITIES

The social and recreational center for all students, alumni, and faculty members is the Chicago Illini Union Building, 715 South Wood Street. Its facilities include a cafeteria, grill, soda fountain, browsing room, music room, gymnasium, meeting rooms, and game rooms. Intramural sports under a trained director are encouraged, and facilities and equipment are available for softball, horseshoes, tennis, archery, wrestling, fencing, badminton, basketball, and ping-pong. Through special arrangements at the nearby Duncan Y.M.C.A., handball and swimming are available to students.

ADMISSION REQUIREMENTS

The curriculum in pharmacy comprises five academic years of college work leading to the degree of Bachelor of Science in Pharmacy. This is a minimum curriculum adopted by all but two accredited colleges of pharmacy in the United States. The two exceptions now require six years of collegiate work leading to a degree of Doctor of Pharmacy.

A person seeking admission to the University of Illinois College of Pharmacy must have been graduated from an accredited secondary school, or have equivalent preparation, and have satisfactorily completed not less than thirty semester hours or equivalent of academic work, exclusive of hygiene,



A CLASS IN HOSPITAL PHARMACY

physical education, and military training in an accredited college, junior college, or university.

To be considered for admission the applicant should submit to the Associate Dean of Admissions and Records, 1853 West Polk Street, Chicago 12, Illinois, the following documents: (1) completed application forms, and (2) an official transcript of record in each college, junior college, or university attended.

New classes enroll only once a year and begin in late September. Applications must therefore be completed not later than September 1 of the year in which the student wishes to enroll. Only when the Admissions Committee deems it advisable are applications accepted after September 1.

APPLICATIONS FROM NONRESIDENTS OF ILLINOIS

The Admissions Committee is authorized to accept up to ten per cent of each entering first-year professional class from nonresident applicants. However, only highly qualified nonresident students are considered for admission. Applicants for admission who come from foreign countries must make all arrangements in advance. They must furnish complete official credentials and certify that they are able to meet in full the cost of attending the University. Certificates in a foreign language must be accompanied by certified translations.

SELECTION OF APPLICANTS

In granting admission, the Admissions Committee considers each candidate's qualifications, including his scholastic records from the colleges and universities of recognized standing which he previously attended. Applicants from institutions other than the University of Illinois must present a college average of at least 3.0 in terms of the grading system of the University of Illinois for all work previously taken and must have a combined average of 3.0 for the last semester, or last twelve hours, whichever is applicable. Students entering the College of Pharmacy from other colleges within the University of Illinois must be eligible for continued registration in that college.

An applicant whose over-all average is 3.0 or above, but has an average below 3.0 but above 2.5 for the last semester or twelve hours, may be admitted on a probationary status upon recommendation of the Admissions Committee and the approval of the Dean of the College.

The grading system in force at the University of Illinois is based on the values of A = 5.0, B = 4.0, C = 3.0, D = 2.0, and E = 1.0 (failure).

All applicants seeking admission to the College of Pharmacy receive formal notification of the action of the Admissions Committee.

READMISSION REQUIREMENTS

A student returning to the College of Pharmacy after remaining out of the college one or more quarters is considered for readmission on the basis of the curriculum in effect at the time of his return. Action taken is for the student's best interest, and in no case is he unduly penalized for conditions beyond his control. A student dropped for poor scholarship may at the discretion of the Committee on Student Status and Promotion be readmitted on a probationary status but must prove that he can do work on a level required for graduation.

RENEWING APPLICATIONS

An applicant who has been accepted for admission but fails to enroll, and who wishes to enter in a subsequent year, must reapply for admission and must meet all requirements in force at the time of the new application.

HIGH SCHOOL REQUIREMENTS

In preparing to enter college for the study of pharmacy, certain high school courses are required to fulfill the fifteen units of acceptable school work. The completion of three years of English, one year of algebra, and one year of plane geometry are among the requirements. A fourth year of English and additional mathematics are helpful but not required. Such courses as biology, chemistry, and physics serve as a foundation for future courses in

the College of Pharmacy. The study of history, social studies, and two years of either Latin or a modern foreign language is also of great value. Skill in the use of a typewriter is likewise an asset to the pharmacy student.

COLLEGE REQUIREMENTS

College work submitted to meet the entrance requirements of the College of Pharmacy must include a minimum of credit in the following courses: general or inorganic chemistry, including qualitative analysis, eight semester hours; college algebra, three semester hours; plane trigonometry, two semester hours; and English composition, six semester hours. The elective courses selected to complete the required thirty semester hours should not include courses offered in the College of Pharmacy but those which will increase the social and cultural background of the student. If credit in courses required in the College of Pharmacy curriculum is offered to meet the minimum admission requirement, the student is required to elect an equivalent number of hours to meet the requirement for graduation.

ADMISSION BY TRANSFER

A person presently enrolled or who has previously attended a college of pharmacy of recognized standing is considered for admission upon presentation of an official transcript of his entire collegiate record showing him to be in good standing at the time of his withdrawal from the institution he last attended. College work completed with a grade of "C" (3.0) or better in addition to the preprofessional requirements, is considered in granting advanced standing in the College of Pharmacy. The degree of Bachelor of Science in Pharmacy is never granted to a student who has not been in residence in this or another college of pharmacy for a minimum of three academic years.

DEPOSIT

Each applicant who is assigned a place in any class in the College of Pharmacy is required to make a deposit of \$15.00 within two weeks of the date of notification that he will be admitted. This deposit is applied on fees assessed against him at the time of registration. Failure to pay this deposit within the specified time subjects the applicant to forfeiture of his place. No deposit is refunded unless the applicant notifies the Associate Dean of Admissions and Records at least thirty days before the time for registration that he will not matriculate.

PHYSICAL REQUIREMENTS

Evidence of satisfactory health is desirable before enrollment, and a certificate attesting to the applicant's health is requested from the Health Service of the last institution attended or from the applicant's private physician.

Each applicant is advised to contact a physician in regard to his health, the possible need for glasses or correction of other defects, and to insure that immunizations for smallpox, tetanus, and poliomyelitis are up to date.

Each student accepted for admission is required to report to the University Health Service for a medical examination, laboratory tests, and immunizations. If immunizations are done beforehand by a private physician and the results in writing are brought in, much time can be saved.

Appointments for the physical examination by the Health Service can be made by telephone, MOnroe 3-3900, Extension 3181, or in person at Room 130, Research and Educational Hospitals, 840 South Wood Street, Chicago 12. These appointments should be made as soon as possible after the letter of acceptance is received. Enrollment in the College of Pharmacy is not continued without approval from the Health Service.

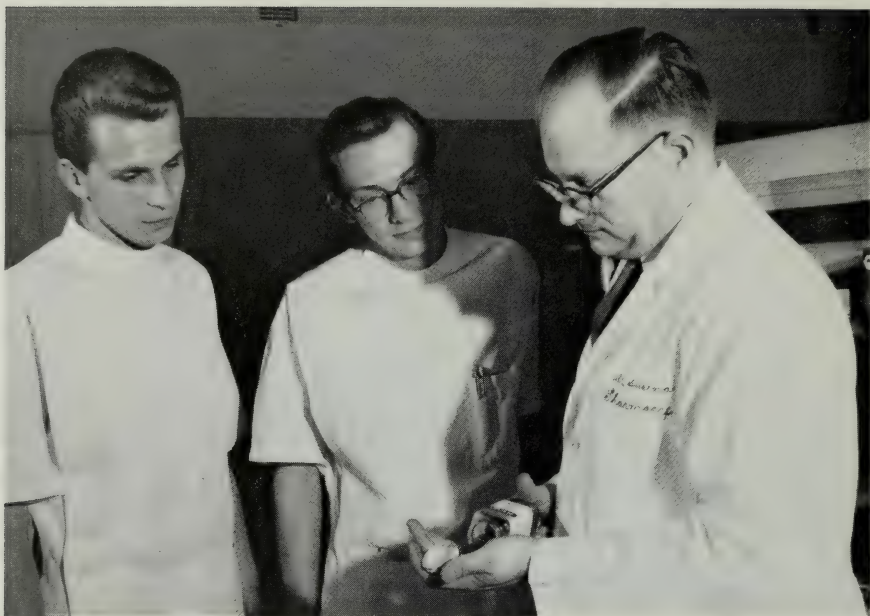
GRADUATION REQUIREMENTS

A candidate for the degree of Bachelor of Science in Pharmacy must meet the following general requirements: (1) be of good moral character, (2) pay all indebtedness to the University, (3) obtain passing grades in all courses of the required curriculum, and (4) have completed the four-year professional curriculum of 189 quarter hours with a minimum average of "C," equivalent to a minimum grade-point average of 3.0 including grades in courses transferred from other institutions. In addition, he must have a "C" average (3.0) for all courses taken in the College of Pharmacy of the University of Illinois or transferred from other branches of the University of Illinois. All grades in courses which count toward graduation are used in computing the average necessary for graduation. Where a course has been repeated, both the original and subsequent grades are included in the average. Either the first three years of work, or the last year, must be done in the College of Pharmacy.

STATE REGISTRATION OF PHARMACISTS

The Pharmacy Practice Act of the state of Illinois in effect January 1, 1956, provides that:

"Any person shall be entitled to registration as a registered pharmacist who is not less than twenty-one (21) years of age, of good moral character and temperate habits, a graduate of an accredited high school or whose education is equivalent thereto in the discretion of the Board, a graduate of a course of at least four academic years with a pharmaceutical degree from a school or college of pharmacy or department of pharmacy of a university recognized and approved by the Department of Registration and Education, and who has had at least one (1) year of pharmacy apprenticeship experience."



PHARMACY DISPENSING

rience from and after the successful completion of at least one (1) academic year of attendance in a school or college of pharmacy or department of pharmacy of a university recognized and approved by the Department, in assisting in the practice of pharmacy under a registered pharmacist in a drug store or pharmacy in this State or in any other state, or in a drug store or pharmacy in a hospital, or similar institution conducted by the Army, Navy, Air Corps, Marine Corps, Coast Guard, Veteran's Administration, or Public Health Service of the United States, or by the State Militia or National Guard of any state thereof, where the practice of pharmacy, including the compounding of prescriptions, is carried on, and who shall pass a satisfactory examination prescribed by the Board of Pharmacy.

"No person shall be registered as a registered pharmacist who is not a citizen of the United States, or who has not made a declaration of intention to become a citizen, or who, having made such declaration of intention, has not filed a petition for naturalization within thirty days after becoming eligible to do so, and no certificate of registration as a registered pharmacist shall be continued or renewed for any person, who having made such declaration of intention has not filed a petition for naturalization within thirty days after becoming eligible to do so.

"The Department of Registration and Education may in its discretion

register as a registered pharmacist, without examination, any person who is duly registered as a pharmacist by examination in some other state, provided that the said person shall produce evidence satisfactory to the Board of having had the required secondary and professional education and training, and is possessed of good moral character and temperate habits, as required of applicants for registration as pharmacists under the provisions of this Act; provided, that persons of good moral character and temperate habits who have become registered as pharmacists by examination in other states prior to the effective date of this Act, shall be required to satisfy only the requirements for registration as pharmacists which existed in this State at the time they became registered as pharmacists in such other states, and provided also, that the state in which each said person is registered shall, under like conditions, grant reciprocal registration as a registered pharmacist, without examination, to a registered pharmacist duly registered as such by examination in this State. The person who shall be registered as a registered pharmacist, by reciprocity, under the provisions of this subsection, shall have the authority to practice the profession of pharmacy in this State, the same as a registered pharmacist who shall be registered, by examination, under the provisions of this Act."

The Pharmacy Practice Act provides further that:

"Any person shall be entitled to registration as a registered pharmacy apprentice who is of the age of sixteen (16) years or over, of good moral character and temperate habits, employed in a drug store or pharmacy in this State under the personal supervision of a registered pharmacist in good standing in this State, a graduate from an accredited high school or comparable school or educational institution recognized by the Department, and who shall have filed a written application therefor, on a form to be prescribed and furnished by the Department for that purpose, accompanied by a fee of Two (2) dollars. . . . The pharmacy apprenticeship experience required of any applicant for registration as a registered pharmacist . . . shall be computed from and after the successful completion of at least one (1) academic year of attendance in a school or college of pharmacy or department of pharmacy of a university recognized and approved by the Department.

"The year of the required pharmacy apprenticeship experience under this Act shall consist predominantly in assisting registered pharmacists under their direct personal supervision in the practice of pharmacy, including, but not limited to, the compounding and dispensing of prescriptions, the preparing of pharmaceutical preparations, the keeping of records and the making of reports required under local, state and federal laws relating to the operation of a pharmacy and to the practice of pharmacy, and such

other duties as may be recommended by the Board of Pharmacy and approved by the Department of Registration and Education.”

Questions relative to the apprenticeship training requirements and other qualifications for examination and licensure as a pharmacist should be directed to the Department of Registration and Education, State of Illinois, Springfield, Illinois.

GRADUATE STUDY

The University of Illinois College of Pharmacy offers programs leading to the degrees of Master of Science and Doctor of Philosophy in Pharmaceutical Chemistry, Pharmacognosy, and Pharmacy. Admission to the graduate program in any of these disciplines is governed by the general regulations and requirements of the Graduate College of the University of Illinois at the Medical Center in Chicago.

STUDENT RESIDENCE HALL



Students planning for study leading to an advanced degree in chemistry must have the degree of Bachelor of Science in Pharmacy or Chemistry. Those desiring admission to a graduate curriculum in Pharmacy must have either a Bachelor of Science in Pharmacy or a Bachelor of Pharmacy degree or an equivalent professional degree. Pharmacognosy requires a Bachelor of Science in Pharmacy before admission is granted to the curriculum in this discipline.

Students interested in the advanced programs of study should direct their inquiries to the heads of the respective department in which they plan to work toward the advanced degree. Requirements and courses offered are listed in the official bulletin of the graduate college.

STUDENT HOUSING

Excellent living accommodations in the new Residence Hall are available to all unmarried students of the University of Illinois at the Medical Center. This residence unit is conveniently located to all campus functions and is provided with the finest furnishings and equipment.

The Residence Hall has 209 student rooms available. These rooms are 11 feet 7½ inches by 16 feet 10 inches. Each room is equipped with two single beds and mattresses, bedding, two chests with mirrors, two desks, two study chairs, a lounge chair, study lamps, and waste baskets. Each resident has an individual closet 3 feet by 3 feet.

Each floor of the building has a central washroom and shower room. Trunk storage space is available on the first floor of the building. The laundry room is equipped with automatic washers and driers. The building has two automatic elevators.

Residence Hall cost includes room and board (twenty meals per week) and is payable in full, quarterly, or by installments. Accommodations are available for three quarters at the rate of \$860.00 per student.

For additional information about housing, write to the Director of Housing, 818 South Wolcott Avenue, Chicago 12, Illinois.

FEES AND EXPENSES

A schedule of quarterly fees for students in the College of Pharmacy is listed below. One-third of each year's fees is payable on registration for each quarter. The Board of Trustees of the University reserves the right to change the fees at any time through publication in the annual announcements.

	Range I		Range II		Range III	
	<i>Above 10 quarter hours or above 2 units</i>		<i>Above 5 hours or 1 unit up to and including 10 hours or 2 units</i>		<i>Above 0 up to and including 5 hours or 1 unit</i>	
	Resident	Nonresident	Resident	Nonresident	Resident	Nonresident
Tuition (except those holding exemptions)	\$ 57.00	\$174.00	\$40.00	\$120.00	\$25.00	\$ 75.00
Service Fee ¹	37.00	37.00	29.00	29.00	19.00	19.00
Hospital-Medical-Surgical Insurance Fee ²	6.00	6.00	6.00	6.00	6.00	6.00
Total	\$100.00	\$217.00	\$75.00	\$155.00	\$50.00	\$100.00

¹ Persons on the academic, administrative, or permanent nonacademic staff of the University, or on the staffs of allied agencies, and persons registered in absentia or off-campus are exempt from this fee.

² Students presenting evidence of equivalent coverage may receive a waiver of the Hospital-Medical-Surgical Insurance Fee upon approval of a petition submitted to the University Insurance Office not later than the final day established for full refund of fees. Persons registered for thesis research in absentia are not assessed this fee.

Change of Program Fee. A fee of \$1.00 is charged for every change slip issued at the request of the student.

Late Registration Fine. Former students who register after the regular registration days in any quarter pay a late registration fine of \$15.00.

Special Examination Fee. For any special examination given in a course which has been failed, the fee is \$10.00.

Transcript Fee. Each student who has paid all his University fees is entitled to receive, without charge, one transcript of his record. For each additional transcript the fee is \$1.00.

Unclassified Students. Unclassified students pay fees on the same scale as classified students.

Visitor's Fee. Persons not connected with the University are permitted to attend classes as visitors upon payment of \$15.00 for each course. Persons paying full fees and those who are exempt from tuition are not assessed this fee.

SERVICE CHARGE FOR DEFERRED FEES

Students may arrange for deferment of fees (installment payments) by calling at the Business Office, 187 East Dentistry-Medicine-Pharmacy Building. A nonrefundable service charge of \$2.00 a quarter is charged for the privilege of deferring fees. The service charge, not less than one-third of the current quarter's fees, and all fees and charges from previous terms must be paid on the day of registration. Registration is not completed until fees are paid in full, and failure to meet payments within the time limit cancels the privilege of attending classes.

REFUNDS

If a student withdraws during the first ten days of a quarter, his total fees are refunded. If he withdraws after ten days attendance but before one-half of the quarter has elapsed, a refund of one-half of his total fees is made. No refund is made if the student withdraws after one-half of the quarter's work has elapsed.

EXPENSES

From \$110.00 to \$150.00 a month may be regarded as adequate for the ordinary living expenses of a student in Chicago, exclusive of books, clothing, railroad fare, and miscellaneous needs. The initial expense for books and materials for the first year averages approximately \$100.00. Some of the books purchased in the first year are used throughout the four years thereby reducing the expenses for upperclassmen.

SCHOLARSHIPS, HONORS, AND PRIZES

SCHOLARSHIPS AWARDED BY COUNTY COMPETITIVE EXAMINATION

County Scholarships. One scholarship is awarded in each county to the high school graduate who passes with the highest average a competitive examination given on the last Saturday in March under the supervision of the County Superintendent of Schools. The grade must be at least 70 per cent. Additional scholarships are awarded in counties with populations in excess of 50,000. All candidates write an examination in English composition and rhetoric and in two of the following fields: mathematics, social studies, natural science. A candidate who has had college work is not eligible.

The Board of Trustees has authorized winners in the above examinations to defer the beginning date of the scholarship in cases where the recipient will not graduate from high school until February next following the March examination. Such candidates must register in the University of Illinois in the second semester of the school year immediately following the examination.

A county scholarship exempts the holder from the tuition fees in any course in the University for four years.

Scholarships for Children of Veterans of World War I, World War II, and the Korean Conflict. By act of the legislature (1947), one scholarship is available in each county each year for a child of a veteran of World War I, one each year for a child of a veteran of World War II, and one each year for a child of a veteran of the Korean conflict. This scholarship is awarded to the candidate who receives the highest grade in the competitive examination held on the last Saturday in March each year as described in

the paragraph on the County Scholarships, except that preference is given to children of veterans who are deceased or disabled. It exempts the holder from the tuition fees for four years in any department of the University. Proof of service of the war veteran and of his relationship to the candidate is required.

SCHOLARSHIPS AWARDED FOR MILITARY SERVICE

Military Scholarships. Any person who served in the Army, Navy, Air Force, or Marine Corps of the United States during World War I, or sometime between September 16, 1940, and the termination of the National Emergency proclaimed December 16, 1950, and who has been honorably discharged, is entitled to a scholarship in the University of Illinois if he possesses the necessary entrance requirements and if he was a resident of the state of Illinois or a student in the University of Illinois at the time of enlistment. This scholarship exempts the holder from the tuition fees in any course in the University for four years.

"A scholarship shall not be awarded hereunder, or, if awarded, the benefits shall not be extended, to any person in respect to any period within the scholarship term during which he is receiving financial assistance for educational purposes from the federal government."

SCHOLARSHIPS AWARDED ON NOMINATION OF MEMBERS OF THE GENERAL ASSEMBLY

Each member of the General Assembly may nominate annually one student from his district for a scholarship in the University. Provision is made for substitute appointments in case the original nominee fails to qualify or discontinues his course. This scholarship exempts the holder from the payment of the tuition fees in any course in the University for a period of four years.

SCHOLARSHIPS AWARDED BY THE ILLINOIS STATE SCHOLARSHIP COMMISSION

The number of first-year scholarships available each year are two for residents of each senatorial district, two for residents of each representative district, and such additional number as appropriated funds permit. To be eligible for a first-year scholarship, each applicant (1) must be a resident of Illinois; (2) must be of good moral character; (3) must have successfully completed the program of instruction at an approved high school, or currently be enrolled at such a school and engaged in a program which will be completed by the end of the academic year; and in either event his scholarship must place him in the upper half of his graduating class; (4) must not have engaged in any university, college, normal school, junior college, or other advanced training subsequent to his graduation from high school; (5) must be an individual who, because of financial considerations,

would be deterred from beginning or completing his education; and (6) must have superior capacity to profit by a higher education. In each fiscal year, competitive examinations are conducted among those eligible for first-year scholarships. Each scholarship is renewable annually for a total of three academic years. The amount of each first-year and each renewal scholarship shall be the smallest of the following amounts: (1) \$600.00; or (2) the amount which equals the annual tuition and other necessary fees required by the institution at which the scholarship is to be used; or (3) such amount as the Commission finds to be appropriate in view of the applicant's financial resources. Scholarships may be used in any qualified institution of higher learning. Further information is available in high school offices.

SCHOLARSHIPS AWARDED BY THE UNIVERSITY COMMITTEE ON SPECIAL UNDERGRADUATE SCHOLARSHIPS

There are several scholarships which are good in any college within the University and which are awarded by the University Committee on Special Undergraduate Scholarships. Application should be made to the Dean of Admissions and Records, University of Illinois, Urbana, Illinois, as soon as possible after March 1 of each year.

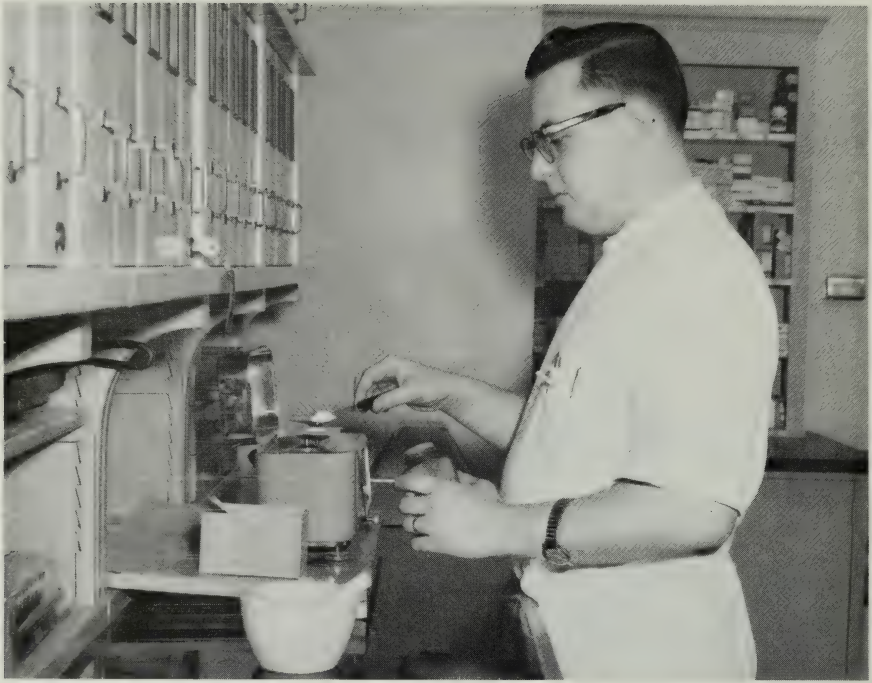
GRANTS-IN-AID AWARDED BY THE COLLEGE OF PHARMACY COMMITTEE ON AWARDS AND SCHOLARSHIPS

This committee has at its disposal a number of grants-in-aid which may be awarded on the basis of need. Applications should be addressed to the Dean of the College of Pharmacy.

GRANTS-IN-AID AWARDED BY PHARMACEUTICAL ORGANIZATIONS

The following pharmaceutical organizations or commercial establishments have given funds for grants-in-aid which are awarded primarily upon the scholastic ability and the need of the individual student:

Alumni Association, University of Illinois College of Pharmacy
American Foundation for Pharmaceutical Education
Charles P. Bondy Memorial Fund for Pharmacy
Douglas Pharmaceutical Council
Ford Hopkins Drug Company
Gazzolo Drug and Chemical Company
Goldenrod Ice Cream Company
Humiston-Keeling Drug Company
Lag Drug Company
McKesson and Robbins, Incorporated
Osco Drug Company



COMPOUNDING A PRESCRIPTION

Phi Delta Chi, Francis Golab Memorial
Photo Service, Incorporated
Sargent's Drug Store
Maurice Skelton Memorial Fund
Stineway Drug Company
E. M. Thomas and J. M. Thomas
Women's Auxiliary of the Chicago Colleges
Women's Organization of the Chicago Retail Druggists Association

HONORS

Graduation with Honors. A student who complies with the requirements for graduation, and who attains in all work presented for the degree the average grade specified below, may be recommended by the University Senate for the honors stated: for an average grade of not less than 4.35, graduation with honors; for an average grade of not less than 4.75, graduation with high honors. The honors awarded are noted on the diploma and in the Commencement program.

Honors Day Convocation. An Honors Day Convocation is held annually.

Certificates indicating attainment of honors are awarded to members of all four classes who have maintained an average grade of not less than 4.35, and certificates indicating attainment of high honors are awarded to members of all four classes who have maintained an average grade of not less than 4.75. These averages are determined at the beginning of the third quarter of each year. In addition, the prizes indicated in the following section are awarded at this Convocation.

PRIZES

Bristol Laboratories Award. This award is an unabridged medical dictionary presented to an outstanding member of the senior class.

Central Pharmaceutical Journal Prize. The Editor of the Central Pharmaceutical Journal sponsors an annual award of \$25.00 which is given to the member of the graduating class attaining the highest average in courses in pharmacy administration.

Cutler and Nechamkin Prizes. Mr. Bernard N. Cutler and Mr. Gerald Nechamkin, Certified Public Accountants, offer annually two United States Government Bonds with face values of \$100.00 each to the students who have achieved the highest grades in the courses in retail pharmacy management and in principles of accounting.

James E. Davis Award. Delta Kappa Sigma Chapter of Rho Pi Phi professional pharmacy fraternity, sponsors an annual award of a \$25.00 United States Savings Bond in memory of a former faculty adviser, James E. Davis. This prize is given to a senior student who best exhibits the attributes of service, leadership, and character. The recipient must also have an average grade of 3.75 in all required courses upon entering the third quarter of the senior year.

William Baker Day Award. Miss Helen M. Day, the daughter of the late William Baker Day, former Professor of Materia Medica and Botany and Dean of the College of Pharmacy of the University of Illinois, has made available a sum of \$25.00 to be awarded annually in memory of her father to a member of the graduating class for excellence in pharmacology.

Paul Eiche Prize. In 1956 the Illinois Pharmaceutical Association received from the executor of the estate of Mr. Paul Eiche the sum of \$2,000 to be held in trust for the purpose of investing the funds and using the income derived therefrom for procuring a gold medal bearing the inscription "Paul Eiche Medal." This medal is awarded to a member of the graduating class who has attained the highest general scholastic average upon entering the third quarter of the senior year.

Elich Prize. Mrs. Herman Elich, in memory of Mr. Herman Elich of

the Class of 1896, who as an alumnus of the College of Pharmacy originated the Elich prize, continues to offer annually a prize of \$25.00 to the senior student with the highest scholastic average in pharmacognosy.

Ethel J. Heath Scholarship Key. Gamma Chapter of Lambda Kappa Sigma offers annually an honor key to all graduating sorority members having a grade-point average of 4.0 or higher.

Illinois Pharmaceutical Association Women's Auxiliary Award. The Women's Auxiliary of the Illinois Pharmaceutical Association offers annually an award of \$50.00 to the outstanding graduating woman student of the College of Pharmacy. This award is based upon character, leadership, and scholastic achievement in pharmacy.

Illinois Pharmaceutical Travelers Association Prize. The Illinois Pharmaceutical Travelers Association sponsors an annual award of \$100 for a deserving graduating male student who has sustained a grade-point average of 4.0 or better in pharmacy upon entering the third quarter of the senior year. The basis for choosing the recipient is character, leadership, and scholastic achievement.

Johnson and Johnson Award. The Johnson and Johnson Company sponsors an award consisting of a mortar and pestle which is given to the member of the graduating class who has obtained excellence in courses in pharmacy administration.

Lehn and Fink Award. The Lehn and Fink Company gives an award consisting of a plaque incorporating a gold medal to the graduating senior who has achieved the highest scholastic average in his courses in pharmacy.

Merck Award. Merck and Company makes available to outstanding members of the graduating class copies of the Merck Index and the Merck Manual.

Rexall Award. The Rexall Drug Company sponsors an award consisting of a mortar and pestle trophy which is awarded to an outstanding member of the junior class.

Rho Chi Prize. Phi Chapter of Rho Chi, honorary pharmaceutical society, awards annually an embossed copy of the United States Dispensatory as a prize to the sophomore student who has attained the highest scholastic average upon entering the third quarter of the sophomore year.

Samuel Shkolnik Jurisprudence Award. An award of \$100.00, donated in the name of Samuel Shkolnik by Humiston-Keeling Company, is given annually to the student earning the highest average in pharmaceutical jurisprudence.

Van Schaack Prize. By the will of Cornelius P. Van Schaack, the College of Pharmacy received in 1937 the sum of \$1,000.00 to be held in trust by



OINTMENT PREPARATION

the University. The annual income from this bequest is used for the purchase of a gold medal, known as the C. P. Van Schaack Award, which is presented to the senior student who has the highest scholastic average in chemistry upon entering the third quarter of the senior year.

LOAN FUNDS

Several loan funds have been established for the benefit of worthy students who have satisfactorily completed at least one year of work in the University and are in need of financial aid in order to finish their courses. Information concerning these funds and the regulations governing loans may be obtained from the office of the Dean of the College. The loans described here are for the exclusive use of students of pharmacy.

Ebert Loan Fund. In 1907, following the death of Mr. Albert E. Ebert who had taken an active part in the development of the College of Pharmacy, the Alumni Association of the College established a fund in memory of Mr. Ebert. Later contributions were made by the Women's Organization of the Chicago Retail Druggists' Association to establish a loan fund. In 1931 the funds were combined into one known as the Albert E. Ebert Loan Fund. The Class of 1932 also contributed to this fund. Loans are made available to deserving students.

Goldenrod Ice Cream Company Loan Fund. Established in 1943, through

a gift from the Goldenrod Ice Cream Company of Chicago, this fund provides for loans to students.

Goldstine Emergency Loan Fund. This fund for emergency loans to students was established by the Board of Trustees in 1933. The name was changed in 1943 when the fund was increased by a gift from Mr. Harry Goldstine.

Student Council Emergency Loan Fund. A sum of money available for emergency loans to students in need of financial aid is on deposit with the Chicago Organizational Fund.

Sidney A. Roth Memorial Fund. The Alumni Chapter of the Delta Kappa Sigma Chapter of Rho Pi Phi fraternity has made available an amount equivalent to the tuition and fees for one quarter to students needing financial assistance. The loan is made upon the recommendation of the Dean of the College of Pharmacy.

ORGANIZATIONS

ALUMNI ASSOCIATION OF THE COLLEGE OF PHARMACY

President: EDWARD H. DEVINE '34, 1915 Orrington Avenue, Evanston, Illinois

Vice-President: MEYER C. BALIN '25, 3745 West Eastwood Avenue, Chicago 25, Illinois

Treasurer: GEORGE L. WEBSTER '22, 1000 Forest Avenue, Wilmette, Illinois

Secretary: SAMUEL SHKOLNIK '25, 111 West Washington Street, Chicago 2, Illinois

Trustees:

WILLIAM J. BICKET '52, 2700 Sheridan Road, Zion, Illinois

ROBERT V. KUNKA '22, 2899 South Archer Avenue, Chicago 8, Illinois

MILTON D. PRIZANT '37, 6043 North Artesian, Chicago 45, Illinois

PAUL S. SANG '26, 6835 Paxton Avenue, Chicago 49, Illinois

VAL WATT '32, 808 East Lakeshore Drive, Springfield, Illinois

Representative (on General Alumni Board):

SAMUEL SHKOLNIK '25, 111 West Washington Street, Chicago 2, Illinois

STUDENT BRANCH OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

The Student Branch of the American Pharmaceutical Association is the only organization which offers professional membership to all students in the College of Pharmacy. The organization maintains an active professional program and cooperates with the Chicago Branch of the A. Ph. A. in the development of the annual banquet of that organization. Approximately

70 per cent of the students enrolled in the College of Pharmacy are active members of the association. Seniors in good standing in the Student Branch at the time of their graduation are accorded full membership in the American Pharmaceutical Association until January 1 of the succeeding year.

RHO CHI

Phi Chapter of Rho Chi, national pharmaceutical honor society organized to promote the advancement of the pharmaceutical sciences, is located at the College of Pharmacy. Students who have completed 115 quarter hours of work of the professional curriculum with an average of at least 4.0 are eligible for membership.

OTHER PHARMACEUTICAL ASSOCIATIONS

The Chicago Branch of the American Pharmaceutical Association, composed of representative pharmacists of Chicago and vicinity, holds its monthly meetings at the College of Pharmacy. Students of the College of Pharmacy are invited to attend.

The College of Pharmacy holds membership in the American Association of Colleges of Pharmacy. The object of the association is to promote the interests of pharmaceutical education, and all institutions holding membership must maintain certain minimum requirements for entrance and graduation. Through the influence of this association, high standards of education are maintained.

PLAN OF INSTRUCTION

Pharmacy is a health profession concerned with the selection, preservation, standardization, preparation, and distribution of drugs and medicinals. It is based on two groups of fundamental sciences, the physical and the biological. Advancements in these sciences have contributed so much to the health professions that it is imperative for the pharmacist to be thoroughly trained in the fundamental sciences as well as in the applied and professional subjects. Accordingly, ample time in the curriculum of the College of Pharmacy is devoted to the physical and biological sciences and other subjects necessary to the practice of pharmacy.

As there are several allied and related fields to which individuals with a pharmaceutical training are particularly adaptable, each student is permitted to elect specialized courses during his four years.

The College of Pharmacy offers the last four professional years of a five-year curriculum leading to the degree of Bachelor of Science in Pharmacy, as summarized on pages 29 and 30. The courses included in the basic curriculum are required of all students. Elective courses for each year are determined through consultation with a faculty counselor.

SIGNIFICANCE OF GRADES OF THE COLLEGE OF PHARMACY

Grades given for work in the College of Pharmacy are as follows: A, excellent; B, good; C, fair; D, poor (but passing); E, failure. Numerical equivalents of these grades on the basis of which averages are made are as follows: each hour of A grade carries 5 grade points; each hour of B grade, 4 grade points; each hour of C grade, 3 grade points; each hour of D grade, 2 grade points; each hour of E grade, 1 grade point.

In addition to the above grades, the following symbols are used. The symbol W indicates withdrawal from the course with permission of the Dean. The grade of E may be given to students withdrawn from the course who were doing unsatisfactory work at the time of withdrawal. Withdrawal because of military service is subject to special regulations. If a student is absent from the final examination without excuse acceptable to the Dean, the symbol Ab is used and counts as a failure. If a student is absent from the final examination with excuse acceptable to the Dean, the symbol Ex is used. The mark of Ex entitles the student to an examination later without fee, but becomes a failure, unless removed at the first opportunity approved by the Dean. The symbol Dr indicates that the student was dropped for academic irregularity and counts as a failure.

In order to qualify for graduation, a student must have completed successfully a minimum of 189 quarter hours of the professional curriculum and earned a minimum of 567 grade points. A minimum grade-point average of 3.0 or C, including work taken elsewhere and accepted for advanced credit, is required for graduation. An average of not less than 3.0 must be attained in work done at the University of Illinois. Failures of required courses in the curriculum must be removed by repeating successfully those courses in which a grade of E is obtained. Where a course is repeated, both the original and subsequent grades are included in the average.

Probationary Status. Any student who failed to attain a 3.0 average in the work for which he receives a grade at the end of a quarter is placed on probation. A student can remove himself from probationary status only upon earning a 3.0 average during his next period of registration. A student who is placed on probation may be required to limit his schedule until probationary status is removed. Any student who consistently earns grades under C may, at the discretion of the Committee on Student Status and Promotion, be denied promotion to the next higher class.

Refusal of Further Registration Because of Poor Scholarship. A student who fails to remove himself from probationary status during his next period of registration may be dropped for poor scholarship. A student who receives either unsatisfactory or failing grades in a substantial portion of the work for which he receives a grade at the end of a quarter may be

dropped for poor scholarship. A student who receives failing grades in one-half or more of the work for which he receives a grade at the end of a quarter is dropped for poor scholarship. A student who is refused further registration because of poor scholarship may petition the Committee on Student Status and Promotion for readmission. Reconsideration of the case of a student dropped for poor scholarship does not guarantee readmission. Except for unusual circumstances, a student may be reinstated only once.

SUMMARY OF CURRICULUM IN PHARMACY

	FIRST YEAR											
	First Quarter			Second Quarter			Third Quarter			Total		
	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.
Chemistry 111, 112, 113.....	4	4	5	4	4	5	4	4	5			15
Pharmacy 110, 112.....	1	0	0	3	3	4	..	..	..			4
Pharmacy Administration 112, 113..	4	0	4	..	..	..	4	0	4			8
Physical Education 101, 102, 103...	3	0	0	3	0	0	3	0	0			0
Physics 111, 112, 113.....	3	3	4	3	3	4	3	3	4			12
	15	7	13	13	10	13	14	7	13			39
Mathematics 111 or Electives.....	3 - 4			3 - 4			3 - 4					48-51

	SECOND YEAR											
	First Quarter			Second Quarter			Third Quarter			Total		
	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.
Chemistry 121, 122, 123.....	3	3	4	2	8	4	4	4	5			13
Pharmacy 121, 122, 123.....	3	3	4	3	3	4	3	3	4			12
Pharmacy Administration 121.....	4	0	4	..	..	..	..	..	..			4
Zoology 121, 122, 123.....	2	6	4	2	6	4	2	6	4			12
	12	12	16	7	17	12	9	13	13			41
Electives.....				3 - 4			3 - 4					47-49

	THIRD YEAR											
	First Quarter			Second Quarter			Third Quarter			Total		
	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.
Chemistry 342, 231.....	2	6	4	4	0	4	..	..	..			8
Microbiology 233.....	..	..	..	..	..	..	3	6	5			5
Pharmacognosy 231, 232, 233.....	3	3	4	3	3	4	3	3	4			12
Pharmacy 231, 232, 233.....	2	6	4	3	3	4	2	3	3			11
Pharmacy 234.....	..	..	..	..	..	..	1	0	1			1
Physiology 232, 233.....	4	..	4	4	0	4	..	..	..			8
	11	15	16	14	6	16	9	12	13			45
Electives.....							3 - 4					47-48

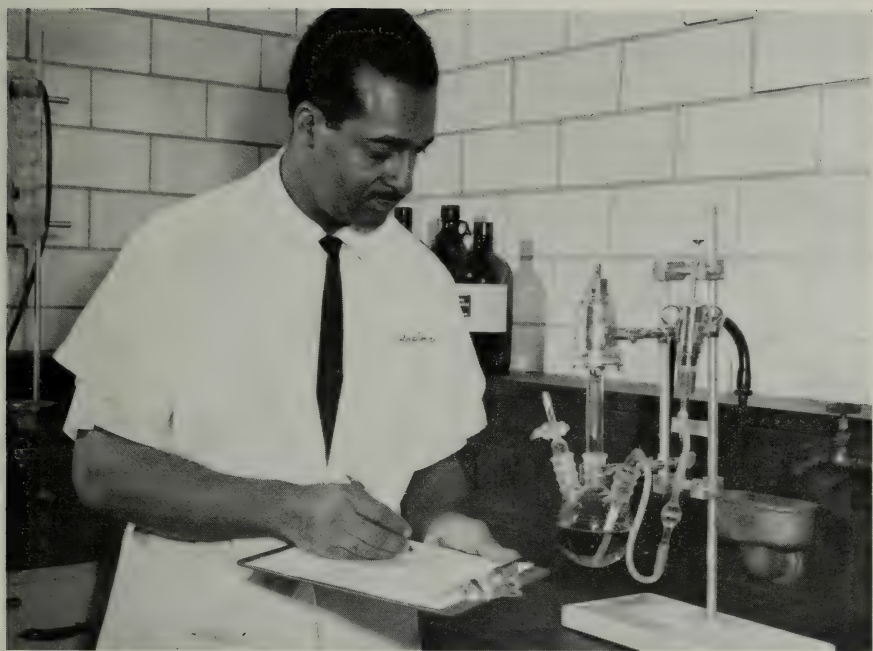
	FOURTH YEAR											
	First Quarter			Second Quarter			Third Quarter			Total		
	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.
Pharmacology 241, 242, 243.....	3	4	4	3	4	4	3	4	4	12		
Pharmacology 244.....	..	..	..	2	0	2	..	..	..	2		
Pharmacy 241, 242, 243.....	3	3	4	3	3	4	3	3	4	12		
Pharmacy Administration 243.....	..	..	..	..	..	..	4	0	4	4		
Zoology 341.....	..	..	..	3	3	4	..	..	..	4		
	6	7	8	11	10	14	10	7	12	34		
Electives.....	6 - 8			3 - 4			3 - 4			46-50		
Basic curriculum 162 hours; 189 hours required for graduation.												

ELECTIVES AVAILABLE TO BOTH UPPER AND LOWER CLASSMEN

	Didactic	Laboratory	Credit Hours
Chemistry 301.....	2	8	4
Chemistry 335.....	3	0	3
Chemistry 336.....	3	4	4
Chemistry 350.....	2	8	4
English 110.....	3	0	3
English 115.....	3	0	3
English 205.....	3	0	3
English 220.....	3	0	3
English 225.....	3	0	3
English 230.....	3	0	3
English 235.....	3	0	3
Mathematics 115.....	4	0	4
Mathematics 116.....	4	0	4
Mathematics 120.....	4	0	4
Physics 315.....	3	0	3
Psychology 126.....	3	0	3
Psychology 130.....	3	0	3
Sociology 125.....	3	0	3
Zoology 305.....	3	3	4

ELECTIVES AVAILABLE ONLY TO UPPER CLASSMEN

	Didactic	Laboratory	Credit Hours
Chemistry 245.....	..	..	(1-4)
Chemistry 343.....	2	6	4
Chemistry 345.....	4	0	4
Chemistry 346.....	2	8	4
Chemistry 349.....	2	6	4
Pharmacognosy 245.....	..	..	(1-4)
Pharmacognosy 301.....	3	3	4
Pharmacognosy 302.....	3	3(6)	4(5)
Pharmacognosy 303.....	2	6(9)	4(5)
Pharmacognosy 306.....	2	3	3
Pharmacognosy 314.....	1	6	3
Pharmacognosy 316.....	3	0	3
Pharmacology 245.....	..	..	(1-4)
Pharmacology 250.....	3	0	3
Pharmacology 310.....	2	6	4
Pharmacy 245.....	..	..	(1-4)
Pharmacy 250.....	1	6	3
Pharmacy 255.....	2	4	3
Pharmacy 260.....	2	8	4
Pharmacy 265.....	2	4	3
Pharmacy 275.....	1	6	3
Pharmacy 280.....	2	0	3
Pharmacy 295.....	1	0	1
Pharmacy 300.....	1	9	4
Pharmacy 305.....	3	0	3
Pharmacy 310.....	2	4	3
Pharmacy Administration 235.....	4	0	4
Pharmacy Administration 240.....	4	0	4
Pharmacy Administration 245.....	..	..	(1-4)
Pharmacy Administration 255.....	4	0	4
Physics 325.....	2	4	3
Zoology 215.....	3	3	4
Zoology 245.....	..	..	(1-4)
Zoology 295.....	1	0	1
Zoology 310.....	2	6	4
Zoology 315.....	3	3	4



PHARMACEUTICAL RESEARCH

Promotion to the Next Higher Class. Any student who, at the end of the academic year, has completed substantially all of the normal program, and has a cumulative grade-point average of 3.0 or better, is promoted to the next higher class. A student who, at the end of the academic year, has a cumulative grade-point average of less than 3.0 may be promoted to the next higher class only with the approval of the Committee on Student Status and Promotion. If a student's cumulative grade-point average is substantially below 3.0, promotion to the next higher class may be withheld.

COURSES OF INSTRUCTION

The following list of subjects is arranged by departments. The description of each course includes a statement of the number of lectures, recitations, or laboratory periods each week (each period being fifty minutes unless otherwise specified). The number of didactic periods and laboratory hours are shown in the summary of the curriculum, which also shows the credit in quarter hours. In the description of each course the quarter during which it is given is indicated by a Roman numeral, "I" for the first quarter, "II" for the second quarter, and "III" for the third quarter, followed by an Arabic numeral in parentheses indicating the number of

credit hours. For example, "I, (3)" means that the course is given in the first quarter for three hours of credit. The expression "I, II, or III" is used if the course may be taken in any quarter.

CHEMISTRY

- 111, 112, 113. Organic Chemistry.** This course provides a study of the nomenclature, occurrence, uses, physical properties, synthesis, and reactions of organic compounds. The treatment is based on the functional groups of the acyclic, alicyclic, aromatic, and heterocyclic compounds, and includes a consideration of polyfunctional compounds, fats, peptides, carbohydrates, and macromolecules. Concepts of stereoisomerism, resonance, reaction mechanisms, and organic theory are used to illustrate the course material. Three lectures, one recitation, and one four-hour laboratory period each week. I, (5), II, (5) and III, (5). These courses must be taken in sequence. Prerequisite: Inorganic chemistry, qualitative analysis, college algebra, and trigonometry.
- 121. Introduction to Physical Chemistry.** This introductory course outlines the scope of physical chemistry and its relationships and applications to other fields of science. It considers the physicochemical behavior of gases, liquids, and solutions, with special reference to biological phenomena. Physiological aspects of oxidation-reduction, osmotic pressure, electrolytic dissociation, and the properties of colloids are discussed. Three lectures or recitations and one three-hour laboratory period each week. I, (4). Prerequisite: Chemistry 113; Physics 111, 112, 113; Mathematics 111.
- 122. Quantitative Analysis.** The principles, theories, and techniques of volumetric analysis as related to acidimetry and alkalimetry. Oxidation-reduction, precipitation reactions, and spectrophotometry are discussed. Selected laboratory exercises illustrate the principles and theories involved in each type of reaction. Two lectures and two four-hour laboratory periods each week. II, (4). Prerequisite: Mathematics 111; inorganic chemistry and qualitative analysis.
- 123. Biological Chemistry.** General biochemistry presented at an introductory level considers the chemistry of living cells and tissues including the metabolic changes taking place in these labile systems. Replacement reactions, energetics, enzymes, vitamins, and hormones are discussed. Four lectures and one four-hour laboratory period each week. III, (5). Prerequisite: Chemistry 121.
- 231. Drug Assaying.** Basic scientific principles are applied to the standardization and analysis of drugs and pharmaceutical products. Applications of the newer analytical techniques of chromatography, colorimetry, spectrophotometry, and nonaqueous titrations to the control of pharmaceutical products are presented. Two lectures and two three-hour laboratory periods each week. I, (4). Prerequisite: Chemistry 113, 121.

- 245. Senior Research in Chemistry.** The student investigates, under the direction of one or more faculty members, a chemical problem of limited scope. The investigation may include experimentation and library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.
- 301. Systematic Identification of Organic Compounds.** The physical and chemical properties, classification, reactions, and methods of synthesis of typical derivatives are employed in the identification of organic compounds. Special conferences and a minimum of eight hours of laboratory work each week. (4). Prerequisite: Chemistry 113, 121.
- 335, 336. Physical Chemistry.** Atomic and molecular structure, chemical thermodynamics, phase equilibria, chemical equilibria, surface chemistry, electrochemistry, and chemical kinetics are discussed in this two-quarter course. Three class meetings in Chemistry 335 each week and three class meetings and one four-hour laboratory in Chemistry 336 each week. Chemistry 335, II, (3); Chemistry 336, III, (4). Prerequisite: Chemistry 113, 121; Physics 112, 113; Mathematics 115.
- 342. Chemistry of Medicinals.** Modern synthetic drugs are studied with regard to their nomenclature, methods of synthesis, and relation to other drugs having similar therapeutic, physical, and chemical properties. Four lectures each week. II, (4). Prerequisite: Chemistry 113.
- 343. Chemical Toxicology.** The common sources, chemistry, methods of isolation, and identification of toxic agents commonly encountered as industrial hazards or as the cause of accidental or purposeful poisoning are discussed. Two lectures and two three-hour laboratory periods each week. III, (4). Prerequisite: Chemistry 113; Pharmacology 244.
- 345. Chemistry of Natural Products.** The occurrence, origin, biological significance, nomenclature, physical and chemical properties, methods of isolation, and pharmaceutical uses of important natural substances are studied. Particular attention is given to the sugars, sugar alcohols, polyhydroxyacids, gums, mucilages, pectins, glycosides, fats, waxes, steroids, hormones, alkaloids, vitamins, enzymes, essential oils, and resins. Four lectures each week. (4). Prerequisite: Chemistry 113, 123.
- 346. Organic Chemistry.** This course is a continuation of the study of organic chemistry with practice in and emphasis on the application of general and special reactions to the synthesis of drugs and chemicals. Two lectures and two four-hour laboratory periods each week. (4). Prerequisite: Chemistry 113, 121.
- 349. Pharmaceutical Assaying.** Chemical and physical methods of analyzing raw materials and dosage forms of medications are discussed. The principles of sampling and the methods of quantitatively separating active compounds

from inactive diluent or vehicles are given special considerations. Two class meetings and two three-hour laboratory periods each week. (4). Prerequisite: Chemistry 231.

350. **Instrumental Analysis.** The principles, methods, and techniques of analytical chemistry using modern electrical and electronic instruments are studied. Two lectures and two four-hour laboratory periods each week. (4). Prerequisite: Chemistry 121, 122.

ENGLISH

110. **Introduction to Poetry and the Drama.** Selected dramas and various types of poetry are studied and considered as art forms. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric.
115. **Introduction to Prose Fiction.** The serious novel and short story are introduced, and representative examples in both categories are read and discussed. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric.
205. **Report Writing.** This course provides an opportunity to study the writing of reports based on research, field surveys, and other data. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric.
220. **Survey of English Literature since 1800.** The writings of some of the principal figures of British literature in the nineteenth and twentieth centuries are examined. Reading assignments include the works of such authors as Wordsworth, Byron, Carlyle, Tennyson, Browning, Huxley, Hardy, Thackeray, and Shaw. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric. English 115 is preferred but not required.
225. **Survey of American Literature from the Civil War to the Present.** Examples of American writing from the Civil War to the present time are discussed. Reading assignments include representative literary works with selections from significant critical writing. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric. English 115 is preferred but not required.
230. **The American Novel.** A historical and critical survey of the development of American prose fiction is presented. It includes intensive reading of such major American authors as Cooper, Melville, James, Hemingway, Faulkner, and others. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric. English 115 is preferred but not required.
235. **The Contemporary Novel.** The course provides critical survey of the chief British and American novelists from 1900 to the present time. A comprehensive reading of major authors to show significant trends in modern prose fiction is required. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric. English 115 is preferred but not required.

MATHEMATICS

111. **Calculus and Analytic Geometry, I.** Coordinate systems, straight lines, functions and graphs, theory of limits, derivatives and integrals of polynomials, applications of differentiation and integration are presented. This course is designed to provide background for required science courses. Four class meetings each week. I, II, or III, (4). Prerequisite: College algebra and trigonometry.
115. **Calculus and Analytic Geometry, II.** Extreme values; derivatives and integrals of trigonometric, logarithmic, and exponential functions; second degree curves; integration of rational fractions; integration by parts; geometric and physical applications. This course is designed for students desirous of electing advanced chemistry and pharmacy courses. Four class meetings each week. II, (4). Prerequisite: Mathematics 111.
116. **Calculus and Analytic Geometry, III.** Polar coordinates; vectors, parametric equations; introduction to infinite series and differential equations; partial derivatives; double integrals and applications. This course is designed for students desirous of electing advanced chemistry and pharmacy courses. Four class meetings each week. III, (4). Prerequisite: Mathematics 115.
120. **Statistics for Experimenters.** Basic measures of central tendency and variability, frequency distributions, probability, binomial distribution, normal frequency function, basic problems and methods of statistical estimation and inference as applied to the families of probability laws of interest in the experimental sciences; curve fitting and correlation. This course is designed for students interested in advanced biological science and pharmacy courses. Four class meetings each week. (4). Prerequisite: Mathematics 111.

MICROBIOLOGY

233. **Microbiology.** The characteristics of bacteria, yeasts, and molds; their relation to disease; biologic products and antibiotics prepared from them. Action of antiseptics, disinfectants, and sterilizants are presented. The laboratory work includes the preparation of cultures and stained mounts, isolation and identification of organisms from mixed cultures, and antibiotics. Three lectures and three two-hour laboratory periods each week. III, (5). Prerequisite: Chemistry 123; Zoology 123.

PHARMACOGNOSY

- 231, 232, 233. **Principles of Pharmacognosy.** The fundamental botany and pharmacognosy of the principal drugs of vegetable and animal origin are studied by means of lectures, laboratory work, and field trips. Related products of economic importance bearing upon the health of man and animal are considered. Three lectures and one three-hour laboratory period each week. I, (4); II, (4); III, (4). These courses must be taken in sequence. Prerequisite: Chemistry 123; Zoology 123.

245. **Senior Research in Pharmacognosy.** The student investigates, under the direction of one or more faculty members, a problem of limited scope in pharmacognosy. The investigation may include experimentation and library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.
301. **Plant Anatomy.** Vascular plants are studied microscopically. Particular attention is given to the development and evaluation of the vascular systems in all parts of the plant. Three lectures and one three-hour laboratory period each week. II, (4). Prerequisite: Pharmacognosy 233.
302. **Plant Physiology.** Life processes in plants, with particular attention to the cell as the fundamental functional unit, are discussed. The basic principles of plant metabolism are emphasized in relation to essential elements, energy relationship, and other environmental factors. Three lectures or conferences and one three-hour laboratory period each week, I, (4); or three lectures and two three-hour laboratory periods each week, I, (5). Prerequisite: Pharmacognosy 233.
303. **Systematic Pharmacognosy.** A taxonomic study of the flowering plants, with particular emphasis upon those of drug importance is provided. Relationship of the principal orders and families, rules of nomenclature, and systems of classification are considered. Laboratory work includes identification of species, together with the collection, identification, and preservation of drug plant specimens. Two lectures and two three-hour laboratory periods each week, (4); or two lectures and three three-hour laboratory periods each week, (5). Prerequisite: Pharmacognosy 233.
306. **Pharmacognosy of the Allergens.** The identification and distribution of hay fever plants is discussed. The course includes an atmospheric survey and the study of wind-borne pollen and fungi spores. Two lectures and one three-hour laboratory period each week. III or summer, (3).
314. **Histological Techniques.** The theoretical and practical development of the knowledge and skills essential to the preparation of biological materials for microscopic study are considered. One lecture and two three-hour laboratory periods each week. I or II, (3). Prerequisite: Pharmacognosy 233 or permission of the departmental faculty.
316. **Commercial Pharmacognosy.** The traffic in crude drugs and related products are examined with consideration of the basic principles governing the production, distribution, and consumption of these materials. Three lectures or conferences each week. I, (3). Prerequisite: Pharmacognosy 233.

PHARMACOLOGY

- 241, 242, 243. **Pharmacology.** The factors underlying the applications of pharmacologic principles and agents to therapeutic problems are considered.



EXTRACTION EXPERIMENT IN PHARMACY

Lectures and discussions are directed to an understanding of the mechanisms and sites of drug actions. Emphasis is placed upon the relationships of physiology, biochemistry, and pathology to the therapeutic applications of drug agents. Three lectures and one four-hour laboratory period each week. I, (4); II, (4); III, (4). These courses must be taken in sequence. Prerequisite: Physiology 233; Chemistry 123; Microbiology 233.

244. **Emergency Aid.** The role of the community pharmacist with respect to the legal and ethical codes as they apply to emergencies arising in the practice of the profession are outlined. Emphasis is placed upon the description, prevention, and temporary relief measures of emergencies arising from accidents, minor afflictions, self-inflicted injuries, disasters, and national conflicts. Two lectures or conferences each week. II, (2). Prerequisite: Pharmacology 241.
245. **Senior Research in Pharmacology.** The student investigates, under the direction of one or more faculty members, a pharmacologic problem of limited

scope. The investigation may include experimentation and library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.

250. **Veterinary Pharmacology.** A course designed to acquaint the pharmacist with the application, mechanism of action, and dangers of drugs used in the areas of agriculture and veterinary medicine. Three lectures each week. III, (3). Prerequisite: Pharmacology 242. Pharmacology 250 is offered in alternate years.
310. **Bioassay.** Official, industrial, and general bioassay procedures are studied with emphasis on their applicability. Their reliability is considered on a statistical basis. Laboratory demonstration periods emphasize the designing, setting-up, and analysis of representative bioassay preparations. Two lectures and two three-hour laboratory demonstration periods each week. II or III, (4). Prerequisite: Pharmacology 241 and permission of departmental faculty. Pharmacology 310 is offered in alternate years.

PHARMACY

110. **Orientation to Pharmacy.** A series of lectures or discussions intended to introduce the student to the scope and opportunities in the field of pharmacy are presented. Opportunities in research, selling, manufacturing, and hospital pharmacy as well as those in retail practice are included. One class meeting each week. I or II. While successful completion of this course is required, credit toward graduation is not granted.
112. **General Pharmacy.** The nomenclature, literature, mathematics, and general processes of pharmacy are presented. Two lectures, one recitation, and one three-hour laboratory period each week. II, (4).
121. **Inorganic Pharmacy.** This course is a survey of the various inorganic compounds of pharmaceutical importance based on the periodic arrangement of the elements. Emphasis is placed on the physical and chemical properties of pharmaceutical significance, as well as the medicinal uses. Two lectures, one recitation, and one three-hour laboratory period each week. I, (4). Prerequisite: Pharmacy 113.
122. **Elementary Physical Pharmacy.** The principles and laws of physical chemistry are applied to the preparation and study of dosage forms. Two lectures, one recitation, and one three-hour laboratory period each week. II, (4). Prerequisite: Chemistry 122; Pharmacy 122.
123. **Pharmaceutical Preparations, I.** The simpler classes of pharmaceutical preparations are discussed. Included are such classes of preparations as waters, solutions, syrups, etc. Three lectures or recitations and one three-hour laboratory period each week. III, (4). Prerequisite: Chemistry 113; Pharmacy 121.



JUNIOR-SENIOR PHARMACY DISPENSING LABORATORY

231. **Pharmaceutical Preparations, II.** The study of pharmaceutical preparations started in Pharmacy 122 is extended to the more complex formulations. It includes the discussion of preparations in which the process of extraction is involved (i.e., tinctures, fluidextracts, and extracts). Two lectures or recitations and two three-hour laboratory periods each week. I, (4). Prerequisite: Pharmacy 123.
232. **Pharmacy Technology.** The more complex drug products are discussed in regard to ingredients, formulation, and preparation. Raw materials are grouped according to their pharmaceutical properties and usage. Comparative discussion of the preparation of products by small scale mechanized and extemporaneous methods are presented in lectures and in the laboratory. Two lectures, one recitation, and one three-hour laboratory or demonstration period each week. II, (4). Prerequisite: Pharmacy 231.
233. **Special Pharmaceutical Formulations.** Pharmaceutical dosage forms applicable to dentistry, animal, and allied health professions are discussed. Two class meetings and one three-hour laboratory period each week. III, (3). Prerequisite: Pharmacy 232.
234. **Therapeutic Aids and Prosthetics.** This course presents a discussion of the items supplied by pharmacies for use in the treatment or management of the sick or injured patient. Sickroom supplies, bandages, hypodermic syringes

and needles, crutches, splints, and oxygen equipment are included. One class meeting each week. III, (1). Prerequisite: Second-year standing.

- 241, 242, 243. Dispensing.** The technics necessary for the extemporaneous compounding of prescriptions and the dispensing of preformed medicinal products are discussed. Laboratory work provides practical experience in the compounding and dispensing of medicinal preparations. Two lectures and two three-hour laboratory periods each week. I, (4); II, (4); III, (4). These courses must be taken in sequence. Prerequisite: Pharmacy 233.
- 245. Senior Research in Pharmacy.** The student investigates, under the direction of one or more faculty members, a pharmaceutical problem of limited scope. The investigation may include experimentation and library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.
- 250. Hospital Pharmacy Practice.** This course provides discussions and experience in hospital pharmacy management and practice. One conference period and six hours of practice in hospital pharmacy each week. I, II, or III, (3). Prerequisite: Fourth-year standing.
- 255. Manufacturing Pharmacy.** The small scale mechanized methods of the preparation of the drug and cosmetic products involved in the manufacturing requirements of professional and hospital pharmacies are presented. Two lectures and one four-hour laboratory period each week. I and II, (3). Prerequisite: Pharmacy 232.
- 260. Introduction to Industrial Pharmacy.** This course offers discussion and practice in the development, production, quality control, and production control of pharmaceutical products. Problems involved in both pilot plant and large-scale production are considered. The equipment and facilities necessary for such operations are discussed. Two lectures and two four-hour laboratory periods each week. II or III, (4). Prerequisite: Pharmacy 255.
- 265. Sterile Product Technology.** The principles of formulation and production of sterile products are presented. Two lectures and one four-hour laboratory period each week. III, (3). Prerequisite: Pharmacy 255.
- 275. Cosmetics.** The composition, formulation, and manufacture of selected types of cosmetics are considered. Problems of perfuming, coloring, packaging, and preservation are discussed. One lecture and two three-hour laboratory periods each week. I, II, or III, (3). Prerequisite: Third-year or fourth-year standing.
- 280. History of Pharmacy.** The history of the profession of pharmacy is studied. Library research on pharmaceutical subjects is required. Two class meetings each week. I, II, or III, (3). Prerequisite: Third-year or fourth-year standing and permission of the departmental faculty.



MANUFACTURING PHARMACY LABORATORIES

295. **Seminar in Pharmacy.** The seminar is designed to provide a training period in reading, abstracting, outlining, and presenting current pharmaceutical literature. One class meeting each week. I, II, or III, (1).
300. **Hospital Pharmacy.** Study and practice of the administrative and operational aspects of hospital pharmacies. One lecture and nine hours practice each week. I, II, or III, (4). Prerequisite: Fourth-year standing.
305. **Physical Pharmacy.** Physicochemical principles and laws are applied to the study of pharmaceutical dosage forms. Special emphasis is placed on the relationship of chemical kinetics and catalysis to pharmaceutical incompatibilities and stability. Three lectures each week. I, (3). Prerequisite: Pharmacy 231; Chemistry 336.
310. **Pharmaceutical Manufacturing Unit Operations.** The theory of operation and the design of the equipment used to carry out the unit operations basic to industrial pharmaceutical manufacturing is presented. Two lectures and one four-hour laboratory period each week. I, II, or III, (3). Prerequisite: Permission of the departmental faculty.

PHARMACY ADMINISTRATION

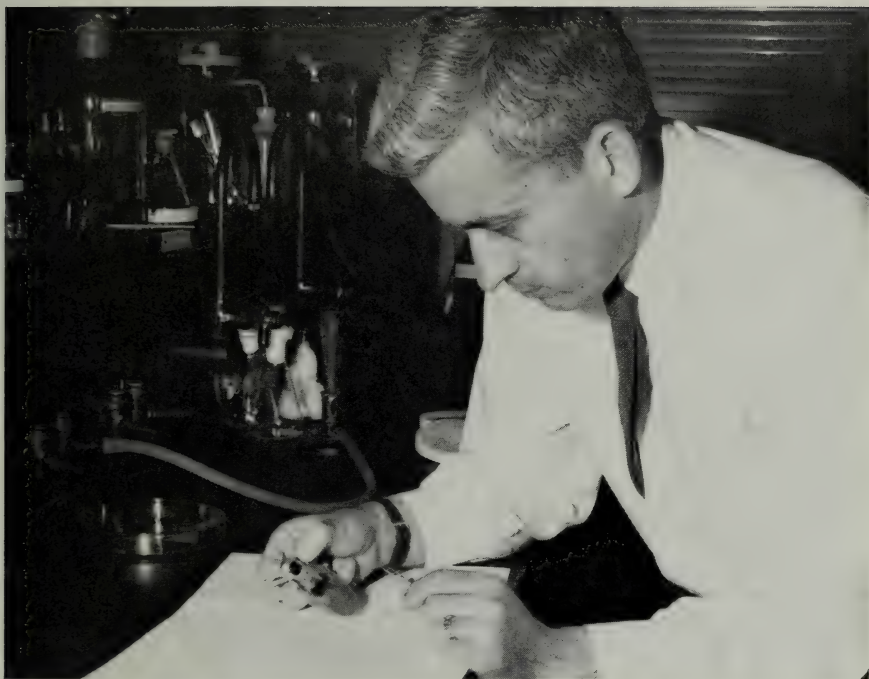
111. **Principles of Accounting.** Fundamentals of accounting practice are discussed and applied to retail pharmacy. The discussions include methods applicable

to stores operating as individual proprietorships or as partnerships. Four class meetings each week. I, (4).

- 113. Elements of Economics.** This course provides a general survey of the operation of the economic system with reference to the business firm, the determination of price and output, the level of national income and the general price level, the monetary and banking system, government finance, competing economic ideologies, and the economics of health. Four class meetings each week. III, (4).
- 121. Principles of Marketing.** The functions, commodities, and middlemen involved in the marketing of goods and services are discussed. Attention is given to the marketing policies and problems involved in the operation of institutions engaged in producing and distributing pharmaceutical products. Four class meetings each week. I, (4). Prerequisite: Pharmacy Administration 112, 113.
- 235. Pharmaceutical Promotion and Selling Methods.** The fundamentals and technic of promoting and selling pharmaceutical products are examined. Consideration is given to promotional methods and personal selling in marketing activities of manufacturers, wholesalers, and retailers. Four class meetings each week. II, (4). Prerequisite: Pharmacy Administration 121.
- 240. Retail Pharmacy Management.** The operational problems of the retail pharmacy from the viewpoint of those responsible for management decisions are considered. Topics discussed include store establishment and organization; buying, pricing, and selling methods; merchandise planning; expense control; personnel selection and management; and financial analysis. Four class meetings each week. III, (4). Prerequisite: Pharmacy Administration 121.
- 243. Pharmacy Law.** The laws and regulations relating to the practice of pharmacy and the principles of common law bearing upon the work and responsibilities of the pharmacist are presented. Four lectures or recitations each week. III, (4). Prerequisite: Fourth-year standing.
- 245. Senior Research in Pharmacy Administration.** The student investigates, under the direction of one or more faculty members, a problem of limited scope in this field. The investigation may require library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.
- 255. Principles of Business Law.** The principles of business law covering the subjects of contracts, sales, negotiable instruments, agency and business organizations are discussed. Four lectures or recitations each week. II, (4). Prerequisite: Pharmacy Administration 112, 113.

PHYSICAL EDUCATION

- 101, 102, 103. Physical Education.** The program is designed to develop physical fitness and skills in various recreational activities. Students scoring low on



ENTOMOLOGICAL RESEARCH

a motor fitness test are assigned to a developmental class. I, II, and III, (1). Credit for these courses is required of all first-year students in the College of Pharmacy. Credit may not be used for graduation.

PHYSICS

- 111, 112, 113. General Physics.** This course presents a study of the fundamental concepts and laws of physics and is designed to give a thorough presentation of the basic principles of classical physics as well as of the more recent developments. Attempts are made to apply the theoretical matter to practical problems. Two lectures, one recitation, and one three-hour laboratory period each week. I, (4); II, (4); III, (4). Prerequisite: College algebra and plane trigonometry. Physics 111 is a prerequisite to either Physics 112 or 113.
- 315. Modern Physics.** Basic tenets of relativity and quantum theories are presented. Topics discussed include elementary particles as well as atomic and nuclear structure. The biological and chemical implications of physics are stressed. Three lectures each week. (3). Prerequisite: Physics 113; Mathematics 111.
- 325. Radioactive Isotopes.** The properties and methods of the detections of radi-

ations are discussed. The use of tracers in radiobiology, medicine, and chemistry, including the applications to therapy and health physics, are included. Methods of assaying and dispensing radioactive pharmaceuticals are emphasized. Two lectures and one four-hour laboratory period each week. (3). Prerequisite: Physics 113; Pharmacy 122.

PHYSIOLOGY

232. Human Physiology. The physiology of blood, heart and circulation, respiration, gastrointestinal tract and liver, kidney, skin, and water balance is discussed. Three lectures and one one-hour demonstration period each week. I, (4). Prerequisite: Zoology 123; Chemistry 123.

233. Human Physiology. The physiology of endocrines, heat regulation, nutrition and metabolism, muscle and nerve, central and autonomic nervous systems, and senses is discussed. Three lectures and one one-hour demonstration period each week. II, (4). Prerequisite: Physiology 232.

PSYCHOLOGY

126. Introductory Psychology. Introductory analysis and description of human behavior. The course systematically considers biological and social aspects of behavior, growth and development, motivation, emotion and adjustment, personality and its appraisal, learning and perception. Three lectures or recitations each week. I, II, or III, (3).

130. Applied Psychology. This course is concerned with the application of the principles of psychology to industry, business, and emotional adjustments. The areas considered include industrial efficiency, advertising techniques, employee and executive selection, detection and treatment of criminals and delinquents, techniques of diagnosis, and principles of personal adjustment. Three class meetings each week. I, II, or III, (3). Prerequisite: Psychology 126.

SOCIOLOGY

125. Introductory Sociology. This course serves as an introduction to the basic structure and the principal forces which influence human society. The fundamental aspects of social organization, culture, socialization and personality, social interaction, collective behavior, and social change are considered. Three lectures or recitations each week. I, II, or III, (3).

ZOOLOGY

121. General Zoology. This course introduces the student to the basic biologic principles of cytology, metabolism, embryology, anatomy, genetics, and evolution as illustrated by the major animal phyla. Two lectures and two three-hour laboratory periods each week. I, (4).

122, 123. Mammalian Zoology and Histology. The structure of man and other mammals as correlated with function is studied. The didactic work is accompanied by the dissection of the cat and the study of histological sections of selected tissues. The fundamentals of mammalian embryology, evo-



BIOLOGICAL SCIENCES LABORATORY

Zoology, Mammalian Anatomy, Histology, Entomology, and Pharmacognosy

lution, adaptation, distribution, and classification are also presented. Two lectures and two three-hour laboratory periods each week. II, (4); III, (4). These courses must be taken in sequence. Prerequisite: Zoology 121.

205. Invertebrate Zoology. This course stresses the morphology, physiology, life cycles, and ecology of free-living invertebrates. It includes laboratory and field work. Three lectures and one three-hour laboratory period each week. II or III, (4). Prerequisite: Zoology 121.

215. General Entomology. This introductory course stresses the recognition, life histories, morphology, physiology, and distribution of insects and related forms. It provides a background for an understanding of control by the use of insecticides and other means. Three lectures and one three-hour laboratory period each week. III, (4). Prerequisite: Zoology 121.

241. Parasitology and Public Health. The vertebrates and invertebrates responsible for, or involved in, the transmission of diseases of man and domestic animals are studied. The epidemiology of viral, bacterial, protozoan, and helminthic diseases is stressed, with particular attention given to the various patterns of survival and spread of the parasites and their entry and exit from the host. The Protozoa, Helminths, and Arthropods are used to illustrate the biology of host-parasite and other interspecific biological relationships. Venomous arthropods and reptiles are also considered to complete the study of animals

injurious to human health. Three lectures and one three-hour laboratory period each week. II, (4). Prerequisite: Microbiology 233.

245. Senior Research in Zoology. The student investigates, under the direction of one or more faculty members, a zoological problem of limited scope. The investigation may include experimentation and library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.

295. Seminar in Biology. The student is required to present a paper resulting from a survey of the literature dealing with a specific topic in biology. I, II, and III, (1 to 3). May be elected for one hour credit in each of three quarters. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.

310. Genetics. This course considers the fundamental principles of biological inheritance and the application of these in the study of plant and animal life. Two lectures and two three-hour laboratory periods each week. II, (4). May be elected in the fourth year only. Prerequisite: Zoology 123.

(See Graduate College catalog for courses offered to graduate students.)

FACULTY OF THE COLLEGE OF PHARMACY AND HEADS OF COOPERATING DEPARTMENTS

- ARO, AURELIA M., M.S., Instructor in Pharmacognosy
BARNOTHY, MADELEINE F., Ph.D., Associate Professor of Physics
BAUER, LUDWIG, Ph.D., Associate Professor of Chemistry
BELL, CHARLES L., Ph.D., Assistant Professor of Chemistry
BLAKE, MARTIN IRVING, Ph.D., Professor of Pharmacy and Head of the Department
BLOMQUIST, CONRAD A., Ph.D., Associate Professor of Zoology and Assistant Dean of the College
BURKMAN, ALLAN M., Ph.D., Assistant Professor of Pharmacology
CARLIN, HERBERT S., Ph.D., Assistant Professor of Pharmacy and Chief Pharmacist in the Hospital Pharmacy
CARPENTER, PAUL DAVID, M.S., Associate Professor of Zoology and Pharmacology, *Emeritus*
CLARKE, CLARKE WILDMAN, M.S., Associate Professor of Chemistry, *Emeritus*
COLLINS, WILLIAM R., B.S., Instructor in Pharmacy, *Emeritus*
COVIELLO, DOMINICK A., Ph.D., Assistant Professor of Chemistry
CRANE, FRANK A., Ph.D., Associate Professor of Pharmacognosy
DANIELS, RALPH, Ph.D., Associate Professor of Chemistry
DEARDORFF, DWIGHT LUVERNE, Ph.D., Professor of Manufacturing Pharmacy
DE LA TORRE, LUIS, Ph.D., Assistant Professor of Zoology
ECANOW, BERNARD, Ph.D., Assistant Professor of Pharmacy
EMIG, HERBERT MARTIN, M.S., Associate Professor of Pharmacy
FU, HELENA SUEN, M.S., Instructor in Pharmacy
GARDNER, JEANNE, M.S., Instructor in Mathematics
GEARIEN, JAMES EDWARD, Ph.D., Professor of Chemistry and Head of the Department
GOLD, BERNARD H., Ph.D., Assistant Professor of Sociology and Psychology
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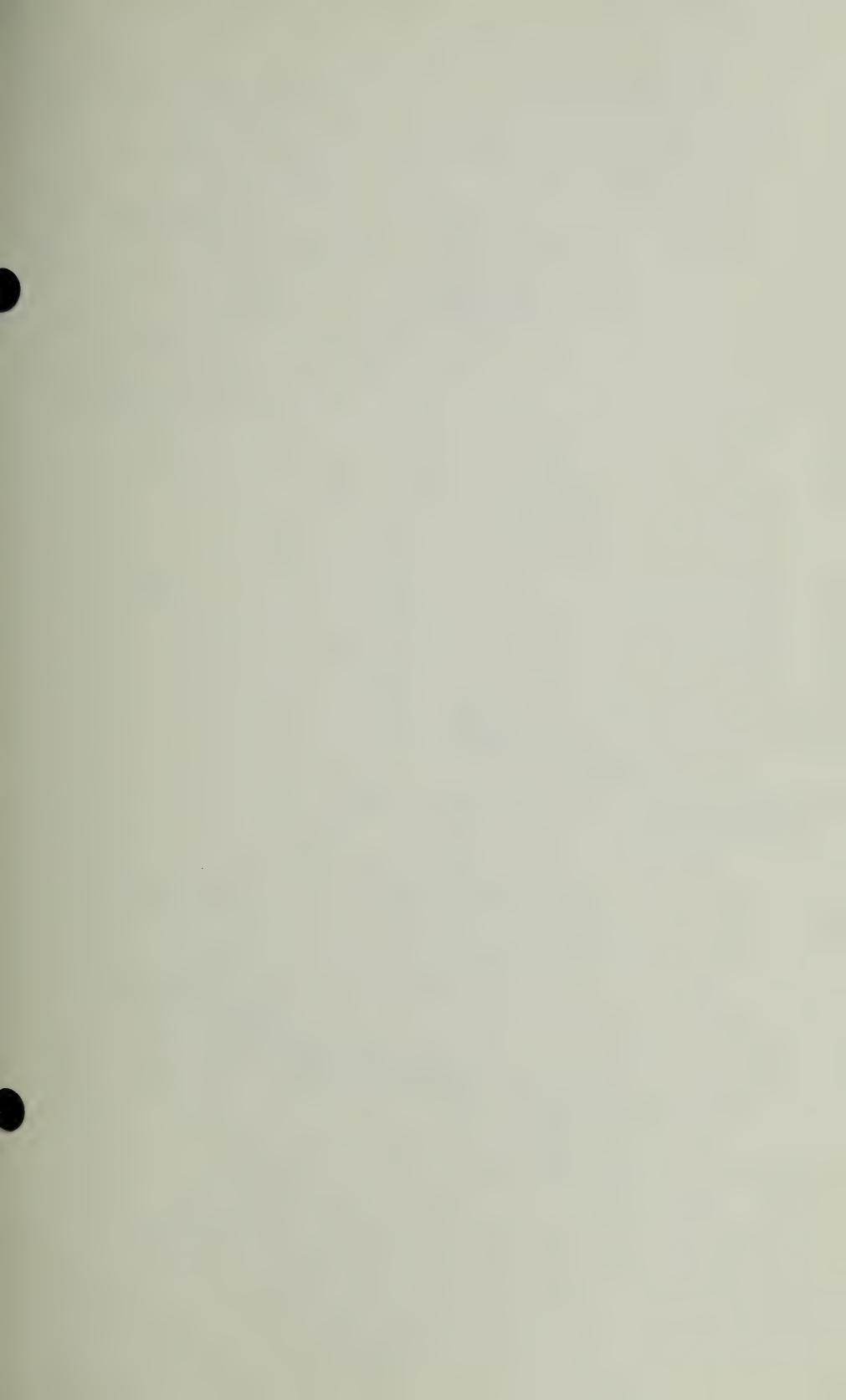
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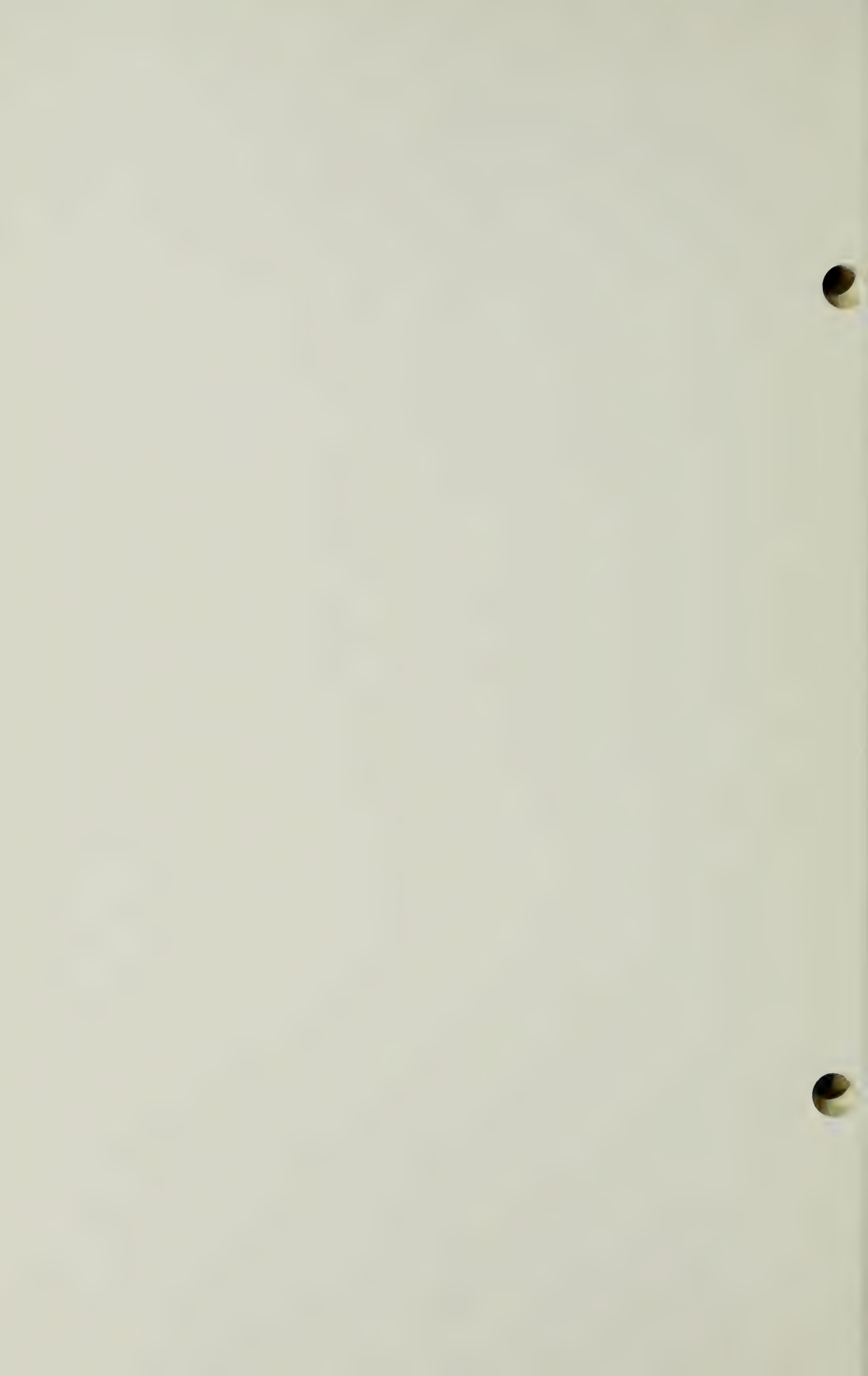


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UNIVERSITY OF ILLINOIS

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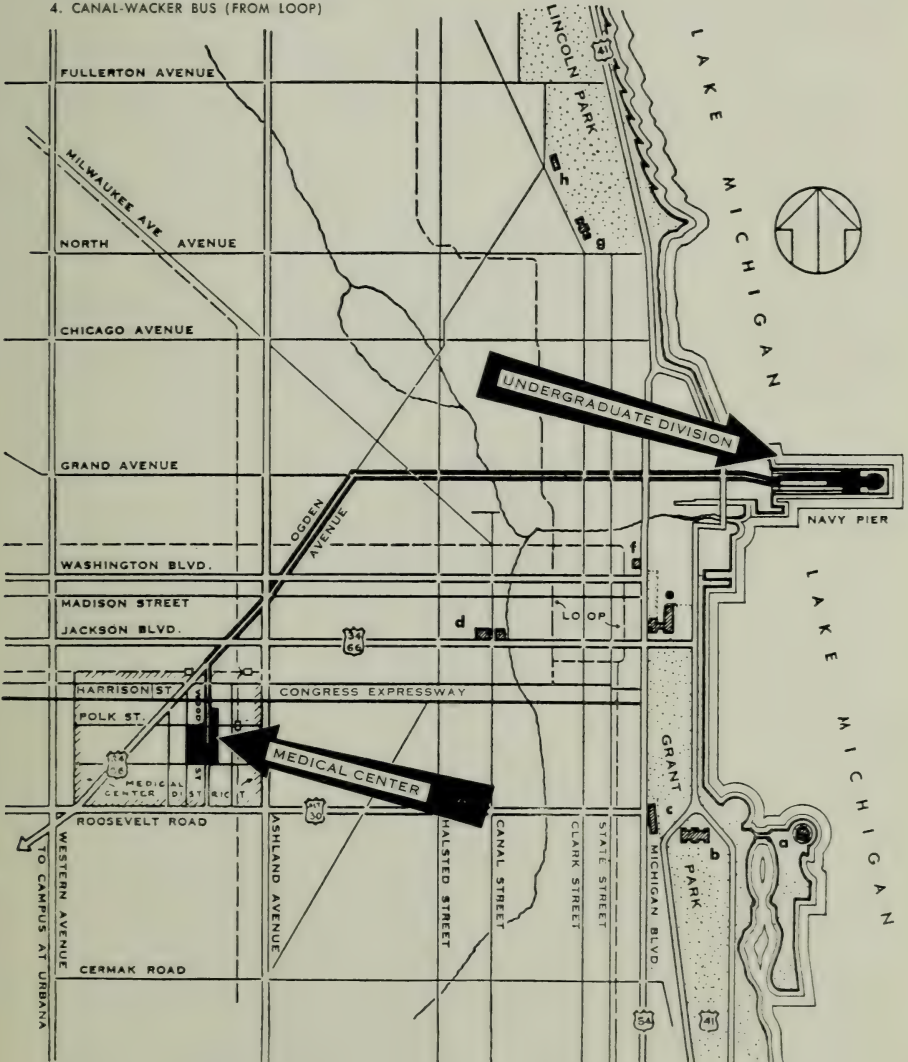
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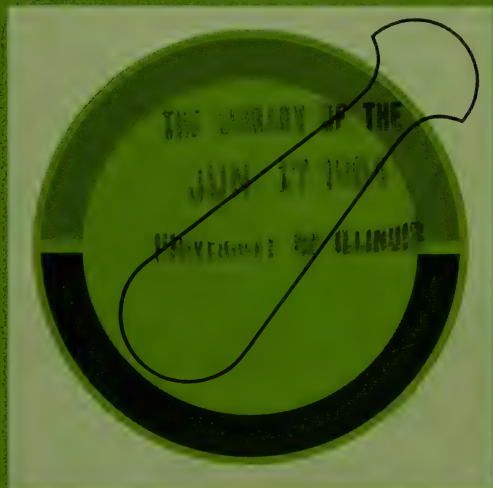
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UNIVERSITY
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1964-1966 CATALOG
COLLEGE OF
PHARMACY



COLLEGE OF PHARMACY
UNIVERSITY OF ILLINOIS
1964-1966 CATALOG

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CALENDAR

1963 — FALL QUARTER

September 26, 27.....Registration and orientation
September 30, Monday.....First day of classes
November 28, 29.....Thanksgiving recess
December 21, Saturday, 12:00 noon.....Fall quarter ends

1964 — WINTER QUARTER

January 6, Monday.....First day of classes
March 21, Saturday, 12:00 noon.....Winter quarter ends

1964 — SPRING QUARTER

March 30, Monday.....First day of classes
May 30, Saturday.....Memorial Day
June 13, Saturday, 12:00 noon.....Spring quarter ends

1964 — SUMMER QUARTER

June 22, Monday.....First day of classes
July 4, Saturday.....Independence Day
August 1, Saturday, 12:00 noon.....First six-week summer term ends
August 3, Monday.....Second six-week summer term begins
September 7, Monday.....Labor Day
September 12, Saturday, 12:00 noon.....Second six-week summer term ends

1964 — FALL QUARTER

September 24, 25.....Registration and orientation
September 28, Monday.....First day of classes
November 26, 27.....Thanksgiving recess
December 19, Saturday, 12:00 noon.....Fall quarter ends

1965 — WINTER QUARTER

January 4, Monday.....First day of classes
March 20, Saturday, 12:00 noon.....Winter quarter ends

1965 — SPRING QUARTER

March 29, Monday.....First day of classes
May 31, Monday (classes dismissed).....Memorial Day holiday
June 12, Saturday, 12:00 noon.....Spring quarter ends

1965 — SUMMER QUARTER

June 21, Monday.....First day of classes
July 5, Monday (classes dismissed).....Independence Day holiday
July 31, Saturday, 12:00 noon.....First six-week summer term ends
August 2, Monday.....Second six-week summer term begins
September 6, Monday.....Labor Day
September 11, Saturday, 12:00 noon.....Second six-week summer term ends

1965 — FALL QUARTER

September 23, 24.....Registration and orientation
September 27, Monday.....First day of classes
November 25, 26.....Thanksgiving recess
December 18, Saturday, 12:00 noon.....Fall quarter ends

1966 — WINTER QUARTER

January 3, Monday.....First day of classes
March 19, Saturday, 12:00 noon.....Winter quarter ends

1966 — SPRING QUARTER

March 28, Monday.....First day of classes
May 30, Monday.....Memorial Day
June 11, Saturday, 12:00 noon.....Spring quarter ends

1966 — SUMMER QUARTER

June 20, Monday.....First day of classes
July 4, Monday.....Independence Day
July 30, Saturday, 12:00 noon.....First six-week summer term ends
August 1, Monday.....Second six-week summer term begins
September 5, Monday.....Labor Day
September 10, Saturday, 12:00 noon.....Second six-week summer term ends



BUILDING LOBBY

COLLEGE OF PHARMACY

HISTORY, LOCATION, AND ADMINISTRATION

HISTORY

The University of Illinois was founded in 1867 upon the foundation laid by the federal government in 1862 in an act to provide for the "liberal and practical education of the industrial classes in the several pursuits and professions of life." This was the Morrill Land-Grant College Act which, in the case of the University of Illinois, granted script for 480,000 acres of land from the sale of which funds for the creation and operation of the University were derived. A gift of approximately one thousand acres of land in Champaign County and of one hundred thousand dollars in county bonds caused the legislature to locate the University of Illinois in the "suburbs of Urbana, adjoining Champaign."

From a small beginning the University has steadily grown to its present distinguished position among the great universities of the United States and the world. In addition to the original location at Urbana-Champaign, the University has an Undergraduate Division located at Navy Pier in Chicago and a Medical Center campus also located in Chicago. Activities of the Chicago Undergraduate Division will be transferred to the new Congress Circle Campus upon its completion.

Located at Urbana-Champaign are the Colleges of Agriculture, Commerce and Business Administration, Education, Engineering, Fine and Applied Arts, Journalism and Communications, Law, Liberal Arts and Sciences, Physical Education, and Veterinary Medicine and the Institute of Aviation. Advanced work is offered by the Graduate College, the Institute of Labor and Industrial Relations, the Jane Addams Graduate School of Social Work, and the Graduate School of Library Science. There is also a Division of University Extension and numerous bureaus, institutes, and schools.

Comprising the Chicago Undergraduate Division are the Colleges of Architecture and Art, Business Administration, Engineering, Liberal Arts and Sciences, and Divisions of Education and Physical Education.

The Medical Center campus consists of the Colleges of Dentistry, Medicine, Nursing, and Pharmacy. The Research and Educational Hospitals and numerous specialized laboratories are used in support of the various educational activities.

The College of Pharmacy was originally an independent proprietary institution before becoming affiliated with the University of Illinois, having been organized as the Chicago College of Pharmacy on September 5, 1859. It was established eight years before the University itself was incorporated and was the fifth institution of its kind in the United States. Activities were suspended during the Civil War, and the College was not reopened until 1870. When its property was destroyed by the Chicago fire of 1871, the pharmacists of the world promptly came to the rescue, those of Great Britain in particular. They enabled the College to reopen again in 1872, with new equipment, including a library, much better than before. In 1896, it became the School of Pharmacy of the University of Illinois, and in 1932 its name was changed to the College of Pharmacy when the curriculum leading to the degree of Bachelor of Science was announced. In 1939-1940 the College of Pharmacy was moved to quarters in the Dentistry-Medicine-Pharmacy Building at 808 South Wood Street, from 715 South Wood Street.

Teaching and research facilities of the College were greatly expanded by the completion and occupancy of a new classroom and laboratory building prior to the opening of the fall quarter of 1954. The new six-story East Unit of the Dentistry-Medicine-Pharmacy Building at 833 South Wood Street now provides administrative and general offices for the College of Pharmacy, lecture halls, classrooms, manufacturing, research, teaching, and dispensing laboratories, storage space for both teaching and research materials, and space for 800 student lockers. The curriculum consists of five years of academic training, the first of which may be taken in any accredited junior college, college, or university, followed by four years of professional instruction at the Chicago campus. The College of Pharmacy maintains a program of postgraduate teaching which enables students to earn advanced degrees in chemistry, pharmacy, and pharmacognosy. It also has established refresher courses which enable the University to render state-wide services to the 4,200 community pharmacies and the 9,000 pharmacists of the state.

LOCATION

The College of Pharmacy of the University of Illinois is located in the great medical center on the west side of Chicago. The work of the College of Pharmacy is centralized in the new East Unit of the Dentistry-Medicine-Pharmacy Building at 833 South Wood Street. The work of the Colleges of Dentistry and Medicine, the Graduate College, and the College of Nursing is centralized in the Dentistry-Medicine-Pharmacy Building which faces on Polk, Wood, and Wolcott Streets. The campus of the University of Illinois at the Medical Center, which is located about three miles from the Loop,

or main business district of the city, can be reached conveniently by elevated train, bus, or automobile.

The University of Illinois Research and Educational Hospitals located at 840 South Wood Street and the Presbyterian-St. Luke's Hospital located at 1753 West Congress Street provide excellent facilities for the teaching of hospital pharmacy to both undergraduate and graduate students.

The Drug Plant Experiment Station, located at Lisle, Illinois, provides a unique opportunity for the development of drug plant research and the training of graduate students who are majoring in the field of pharmacognosy. The facilities of the Station are augmented by the very extensive plant culture programs of the Morton Arboretum.

ADMINISTRATION

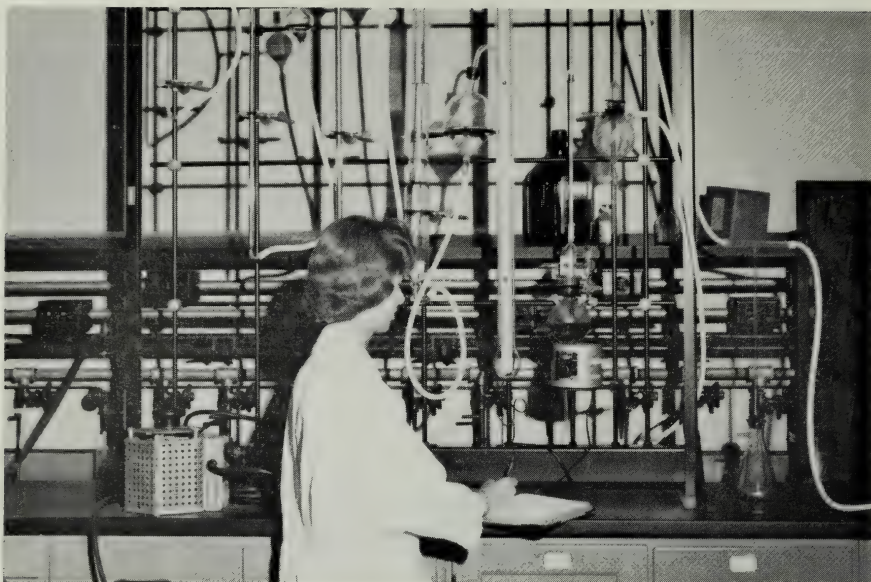
Under the laws of the state of Illinois, the Board of Trustees of the University of Illinois is composed of eleven members, including the Governor and the Superintendent of Public Instruction who serve ex-officio and nine members elected by the people of the state for terms of six years.

Under the University Statutes adopted by the Board of Trustees, the affairs of the University are administered by the President, the Executive Vice-President and Provost, the Vice-President at the Medical Center, the Vice-President at the Chicago Undergraduate Division, the deans and directors of the colleges and schools, and other administrative officers. The Medical Center campus consists of the College of Dentistry, the College of Medicine, the College of Pharmacy, and the College of Nursing, each having its own dean, and all being under the general supervision of the Vice-President at the Medical Center.

Graduate work at the University of Illinois at the Medical Center is conducted by a division of the Graduate College under the supervision of an Associate Dean. The present work of the Graduate College is described in detail in a separate announcement.

A senate is constituted at each campus of the University and consists of the full professors, the deans of colleges, the directors of schools and institutes, the heads and chairmen of departments, and elected members from each faculty. Any faculty member elected to a senate committee is a member of the senate during his committee membership.

Members of the faculty in each college cooperate with those in other colleges of the University, both in instruction and in research. Staff members of the basic science departments in the College of Medicine also give instruction for students of dentistry, pharmacy, nursing, and occupational therapy.



RESEARCH LABORATORY IN CHEMISTRY

ACCREDITATION

The College of Pharmacy of the University of Illinois is fully accredited by the American Council on Pharmaceutical Education. The Council is the only accrediting agency for the profession of pharmacy, and is an affiliate of the American Council on Education.

LIBRARY

The library's collection is a comprehensive one of standard and modern works on dental, medical, nursing, pharmaceutical, social work, and allied scientific subjects, with some 2,000 current periodicals and more than 150,462 volumes on its shelves. Its facilities are available for reference use and most materials may be withdrawn for use outside the reading rooms.

RECREATIONAL FACILITIES

The social and recreational center for all students, alumni, and faculty members is the Chicago Illini Union Building, 715 South Wood Street. Its facilities include a cafeteria, grill, soda fountain, browsing room, music room, gymnasium, meeting rooms, and game rooms. Intramural sports under a trained director are encouraged, and facilities and equipment are available for softball, horseshoes, tennis, archery, wrestling, fencing, bad-

minton, basketball, and ping-pong. Through special arrangements at the nearby Duncan Y.M.C.A., handball and swimming are available to students.

ADMISSION REQUIREMENTS

The curriculum in pharmacy comprises five academic years of college work leading to the degree of Bachelor of Science in Pharmacy. This is a minimum curriculum adopted by all but two accredited colleges of pharmacy in the United States. The two exceptions now require six years of collegiate work leading to a degree of Doctor of Pharmacy.

A person seeking admission to the University of Illinois College of Pharmacy must have been graduated from an accredited secondary school, or have equivalent preparation, and have satisfactorily completed not less than thirty semester hours or equivalent of academic work, exclusive of hygiene, physical education, and military training in an accredited college, junior college, or university.

To be considered for admission the applicant should submit to the Associate Dean of Admissions and Records, 1853 West Polk Street, Chicago, Illinois 60612, the following documents: (1) completed application forms, and (2) an official transcript of record in each college, junior college, or university attended.

New classes enroll only once a year and begin in late September. Applications must therefore be completed not later than September 1 of the year in which the student wishes to enroll. Only when the Admissions Committee deems it advisable are applications accepted after September 1.

APPLICATIONS FROM NONRESIDENTS OF ILLINOIS

The Admissions Committee is authorized to accept up to ten per cent of each entering first-year professional class from nonresident applicants. However, only highly qualified nonresident students are considered for admission. Applicants for admission who come from foreign countries must make all arrangements in advance. They must furnish complete official credentials and certify that they are able to meet in full the cost of attending the University. Certificates in a foreign language must be accompanied by certified translations.

SELECTION OF APPLICANTS

In granting admission, the Admissions Committee considers each candidate's qualifications, including his scholastic records from the colleges and universities of recognized standing which he previously attended. Applicants from institutions other than the University of Illinois must present a college average of at least 3.0 in terms of the grading system of the University of

Illinois for all work previously taken and must have a combined average of 3.0 for the last semester, or last twelve hours, whichever is applicable. Students entering the College of Pharmacy from other colleges within the University of Illinois must be eligible for continued registration in that college.

An applicant whose over-all average is 3.0 or above, but has an average below 3.0 but above 2.5 for the last semester or twelve hours, may be admitted on a probationary status upon recommendation of the Admissions Committee and the approval of the Dean of the College.

The grading system in force at the University of Illinois is based on the values of A = 5.0, B = 4.0, C = 3.0, D = 2.0, and E = 1.0 (failure).

All applicants seeking admission to the College of Pharmacy receive formal notification of the action of the Admissions Committee.

READMISSION REQUIREMENTS

A student returning to the College of Pharmacy after remaining out of the college one or more quarters is considered for readmission on the basis of the curriculum in effect at the time of his return. Action taken is for the student's best interest, and in no case is he unduly penalized for conditions beyond his control. A student dropped for poor scholarship may at the discretion of the Committee on Student Status and Promotion be readmitted on a probationary status but must prove that he can do work on a level required for graduation.

RENEWING APPLICATIONS

An applicant who has been accepted for admission but fails to enroll, and who wishes to enter in a subsequent year, must reapply for admission and must meet all requirements in force at the time of the new application.

HIGH SCHOOL REQUIREMENTS

In preparing to enter college for the study of pharmacy, certain high school courses are required to fulfill the fifteen units of acceptable school work. The completion of three years of English, one year of algebra, and one year of plane geometry are among the requirements. A fourth year of English and additional mathematics are helpful but not required. Such courses as biology, chemistry, and physics serve as a foundation for future courses in the College of Pharmacy. The study of history, social studies, and two years of either Latin or a modern foreign language is also of great value. Skill in the use of a typewriter is likewise an asset to the pharmacy student.

COLLEGE REQUIREMENTS

College work submitted to meet the entrance requirements of the College of Pharmacy must include a minimum of credit in the following courses:

general or inorganic chemistry, including qualitative analysis, eight semester hours; college algebra, three semester hours; plane trigonometry, two semester hours; and English composition, six semester hours. The elective courses selected to complete the required thirty semester hours should not include courses offered in the College of Pharmacy but those which will increase the social and cultural background of the student. If credit in courses required in the College of Pharmacy curriculum is offered to meet the minimum admission requirement, the student is required to elect an equivalent number of hours to meet the requirement for graduation.

Upon completion of the pre-pharmacy requirements it is expected that students desiring a degree in pharmacy will apply for registration in the College of Pharmacy.

A student may apply for admission and receive advanced standing in the professional curriculum for the completion of any or all of the following courses completed in an approved college or university. If all are completed, enrollment for a summer session in the College of Pharmacy in Pharmacy 110 and Pharmacy 112 will complete the requirements of the first professional year.

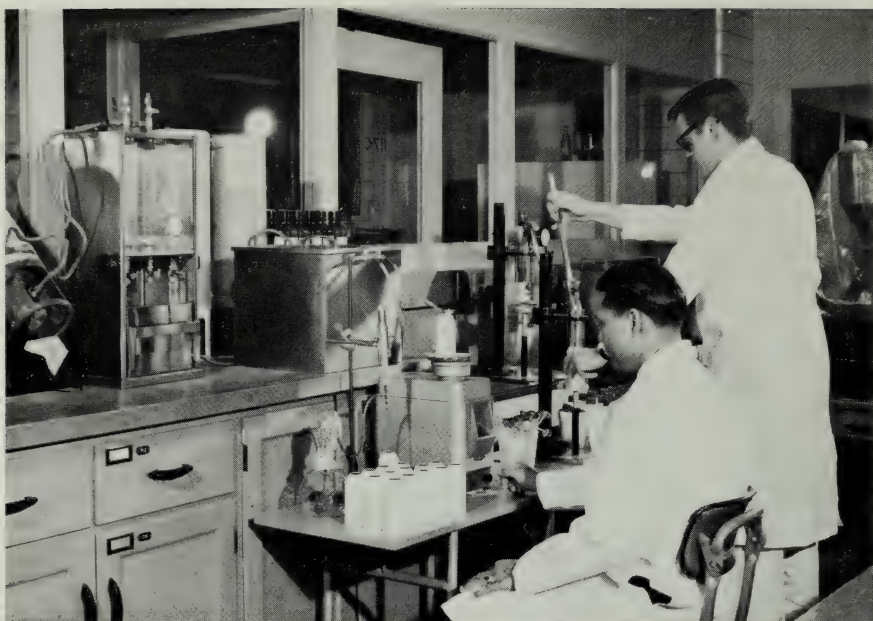
Organic Chemistry, including laboratory.....	10 semester hours
General College Physics.....	8 semester hours
An introductory course (or courses) in Analytical Geometry and the Calculus equivalent to at least.....	3 semester hours
Principles of Accounting.....	3 semester hours
Introduction to Economics.....	3 semester hours
Electives which may include more than the minimum hours of the above or other courses in the Humanities or Social Sciences....	4 semester hours

ADMISSION BY TRANSFER

A person presently enrolled or who has previously attended a college of pharmacy of recognized standing is considered for admission upon presentation of an official transcript of his entire collegiate record showing him to be in good standing at the time of his withdrawal from the institution he last attended. College work completed with a grade of "C" (3.0) or better in addition to the preprofessional requirements, is considered in granting advanced standing in the College of Pharmacy. The degree of Bachelor of Science in Pharmacy is never granted to a student who has not been in residence in this or another college of pharmacy for a minimum of three academic years.

DEPOSIT

Each applicant who is assigned a place in any class in the College of Pharmacy is required to make a deposit of \$15.00 within two weeks of the date of notification that he will be admitted. This deposit is applied on fees assessed against him at the time of registration. Failure to pay this



RESEARCH LABORATORY IN PHARMACY

deposit within the specified time subjects the applicant to forfeiture of his place. No deposit is refunded unless the applicant notifies the Associate Dean of Admissions and Records at least thirty days before the time for registration that he will not matriculate.

PHYSICAL REQUIREMENTS

Evidence of satisfactory health is desirable before enrollment, and a certificate attesting to the applicant's health is requested from the Health Service of the last institution attended or from the applicant's private physician.

Each applicant is advised to contact a physician in regard to his health, the possible need for glasses or correction of other defects, and to insure that immunizations for smallpox, tetanus, and poliomyelitis are up to date.

Each student accepted for admission is required to report to the University Health Service for a medical examination, laboratory tests, and immunizations. If immunizations are done beforehand by a private physician and the results in writing are brought in, much time can be saved.

Appointments for the physical examination by the Health Service can be made by telephone, 663-7420, or in person at Room 130, Research and Educational Hospitals, 840 South Wood Street, Chicago 60612. These appointments should be made as soon as possible after the letter of acceptance

is received. Enrollment in the College of Pharmacy is not continued without approval from the Health Service.

GRADUATION REQUIREMENTS

A candidate for the degree of Bachelor of Science in Pharmacy must meet the following general requirements: (1) be of good moral character, (2) pay all indebtedness to the University, (3) obtain passing grades in all courses of the required curriculum, and (4) have completed the four-year professional curriculum of 189 quarter hours with a minimum average of "C," equivalent to a minimum grade-point average of 3.0 including grades in courses transferred from other institutions. In addition, he must have a "C" average (3.0) for all courses taken in the College of Pharmacy of the University of Illinois or transferred from other branches of the University of Illinois. All grades in courses which count toward graduation are used in computing the average necessary for graduation. Where a course has been repeated, both the original and subsequent grades are included in the average. Either the first three years of work, or the last year, must be done in the College of Pharmacy.

STATE REGISTRATION OF PHARMACISTS

The Pharmacy Practice Act of the state of Illinois in effect January 1, 1956, provides among other things that:

Sec. 6(a). "Any person shall be entitled to registration as a registered pharmacist who is not less than 21 years of age, of good moral character and temperate habits, a graduate of an accredited high school or whose education is equivalent thereto in the discretion of the Board, a graduate of a course of at least four academic years with a pharmaceutical degree from a school or college of pharmacy or department of pharmacy of a university recognized and approved by the Department and who has had at least one year of pharmacy apprenticeship experience from and after the successful completion of at least one academic year of attendance in a school or college of pharmacy or department of pharmacy of a university recognized and approved by the Department, in assisting in the practice of pharmacy under a registered pharmacist in a drug store or pharmacy in this State or in any other State, or in a drug store or pharmacy in a hospital, or similar institution conducted by the Army, Navy, Air Corps, Marine Corps, Coast Guard, Veteran's Administration, or Public Health Service of the United States, or by the State Militia or National Guard of any State thereof, where the practice of pharmacy, including the compounding of prescriptions, is carried on, and who shall pass a satisfactory examination prescribed by the Board of Pharmacy.

(b) "No person shall be registered as a registered pharmacist who is not a citizen of the United States, or who has not made a declaration of intention to become a citizen, or who, having made such declaration of intention, has not filed a petition for naturalization within 30 days after becoming eligible to do so, and no certificate of registration as a registered pharmacist shall be continued or renewed for any person, who having made such declaration of intention has not filed a petition for naturalization within 30 days after becoming eligible to do so.

(e) "The Department of Registration and Education may in its discretion register as a registered pharmacist, without examination, any person who is duly registered as a pharmacist by examination in some other State, provided that the said person shall produce evidence satisfactory to the Board of having had the required secondary and professional education and training, and is possessed of good moral character and temperate

STUDENT RESIDENCE HALL



habits, as required of applicants for registration as pharmacists under the provisions of this Act; provided, that persons of good moral character and temperate habits who have become registered as pharmacists by examination in other states prior to the effective date of this Act, shall be required to satisfy only the requirements for registration as pharmacists which existed in this State at the time they became registered as pharmacists in such other states, and provided also, that the state in which each said person is registered shall, under like conditions, grant reciprocal registration as a registered pharmacist, without examination, to a registered pharmacist duly registered as such by examination in this State. . . . The person who shall be registered as a registered pharmacist, by reciprocity, under the provisions of this subsection, shall have the authority to practice the profession of pharmacy in this State, the same as a registered pharmacist who shall be registered, by examination, under the provisions of this Act."

The Pharmacy Practice Act provides further that:

(f) "Any person shall be entitled to registration as a registered pharmacy apprentice who is of the age of 16 years or over, of good moral character and temperate habits, employed in a drug store or pharmacy in this State under the personal supervision of a registered pharmacist in good standing in this State, a graduate from an accredited high school or comparable school or educational institution recognized by the Department, and who shall have filed a written application therefor, on a form to be prescribed and furnished by the Department for that purpose, accompanied by a fee of \$2. . . . The pharmacy apprenticeship experience required of any applicant for registration as a registered pharmacist . . . shall be computed from and after the successful completion of at least one academic year of attendance in a school or college of pharmacy or department of pharmacy of a university recognized and approved by the Department.

(d) "The year of the required pharmacy apprenticeship experience under this Act shall consist predominantly in assisting registered pharmacists under their direct personal supervision in the practice of pharmacy, including, but not limited to, the compounding and dispensing of prescriptions, the preparing of pharmaceutical preparations, the keeping of records and the making of reports required under local, state and federal laws relating to the operation of a pharmacy and to the practice of pharmacy, and such other duties as may be recommended by the Board of Pharmacy and approved by the Department."

Questions relative to the apprenticeship training requirements and other qualifications for examination and licensure as a pharmacist should be directed to the Department of Registration and Education, State of Illinois, Springfield, Illinois.

GRADUATE STUDY

The University of Illinois College of Pharmacy offers programs leading to the degrees of Master of Science and Doctor of Philosophy in Pharmaceutical Chemistry, Pharmacognosy, and Pharmacy. Admission to the graduate program in any of these disciplines is governed by the general regulations and requirements of the Graduate College of the University of Illinois at the Medical Center in Chicago.

Students planning for study leading to an advanced degree in chemistry must have the degree of Bachelor of Science in Pharmacy or Chemistry. Those desiring admission to a graduate curriculum in Pharmacy must have either a Bachelor of Science in Pharmacy or a Bachelor of Pharmacy degree or an equivalent professional degree. Pharmacognosy requires a Bachelor of Science in Pharmacy before admission is granted to the curriculum in this discipline.

Students interested in the advanced programs of study should direct their inquiries to the heads of the respective department in which they plan to work toward the advanced degree. Requirements and courses offered are listed in the official bulletin of the graduate college.

STUDENT HOUSING

Excellent living accommodations in the new Residence Hall are available to all unmarried students of the University of Illinois at the Medical Center. This residence unit is conveniently located to all campus functions and is provided with the finest furnishings and equipment.

The Residence Hall has 209 student rooms available. These rooms are 11 feet 7½ inches by 16 feet 10 inches. Each room is equipped with two single beds and mattresses, bedding, two chests with mirrors, two desks, two study chairs, a lounge chair, study lamps, and waste baskets. Each resident has an individual closet 3 feet by 3 feet.

Each floor of the building has a central washroom and shower room. Trunk storage space is available on the first floor of the building. The laundry room is equipped with automatic washers and driers. The building has two automatic elevators.

Residence Hall cost includes room and board (twenty meals per week) and is payable in full, quarterly, or by installments. Accommodations are available for three quarters at the rate of \$860.00 per student.

For additional information about housing, write to the Director of Housing, 818 South Wolcott Avenue, Chicago, Illinois 60612.

FEES AND EXPENSES

A schedule of quarterly fees for students in the College of Pharmacy is listed below. One-third of each year's fees is payable on registration for each quarter. The Board of Trustees of the University reserves the right to change the fees at any time through publication in the annual announcements.

	Range I		Range II		Range III	
	<i>Above 10 quarter hours or above 2 units</i>		<i>Above 5 hours or 1 unit up to and including 10 hours or 2 units</i>		<i>Above 0 up to and including 5 hours or 1 unit</i>	
	Resident	Nonresident	Resident	Nonresident	Resident	Nonresident
Tuition (except those holding exemptions)	\$ 57.00	\$174.00	\$40.00	\$120.00	\$25.00	\$ 75.00
Service Fee ¹	37.00	37.00	29.00	29.00	19.00	19.00
Hospital-Medical-Surgical Insurance Fee ²	6.00	6.00	6.00	6.00	6.00	6.00
Total	\$100.00	\$217.00	\$75.00	\$155.00	\$50.00	\$100.00

¹ Persons on the academic, administrative, or permanent nonacademic staff of the University, or on the staffs of allied agencies, and persons registered in absentia or off-campus are exempt from this fee.

² Students presenting evidence of equivalent coverage may receive a waiver of the Hospital-Medical-Surgical Insurance Fee upon approval of a petition submitted to the University Insurance Office not later than the final day established for full refund of fees. Persons registered for thesis research in absentia are not assessed this fee.

Change of Program Fee. A fee of \$1.00 is charged for every change slip issued at the request of the student.

Late Registration Fine. Former students who register after the regular registration days in any quarter pay a late registration fine of \$15.00.

Special Examination Fee. For any special examination given in a course which has been failed, the fee is \$10.00.

Transcript Fee. Each student who has paid all his University fees is entitled to receive, without charge, one transcript of his record. For each additional transcript the fee is \$1.00.

Unclassified Students. Unclassified students pay fees on the same scale as classified students.

Visitor's Fee. Persons not holding tuition waivers who register for less than a full program of credit courses (Range II or III) pay for each noncredit course \$15.00. (This is in addition to the required tuition and fees for credit courses.) If taken alone, noncredit courses other than thesis research and seminar are assigned to Range III.

SERVICE CHARGE FOR DEFERRED FEES

Students may arrange for deferment of fees (installment payments) by calling at the Business Office, 187 East Dentistry-Medicine-Pharmacy

Building. A nonrefundable service charge of \$2.00 a quarter is charged for the privilege of deferring fees. The service charge, not less than one-third of the current quarter's fees, and all fees and charges from previous terms must be paid on the day of registration. Registration is not completed until fees are paid in full, and failure to meet payments within the time limit cancels the privilege of attending classes.

REFUNDS

If a student withdraws during the first ten days of a quarter, his total fees are refunded. If he withdraws after ten days attendance but before one-half of the quarter has elapsed, a refund of one-half of his total fees is made. No refund is made if the student withdraws after one-half of the quarter's work has elapsed.

EXPENSES

From \$110.00 to \$150.00 a month may be regarded as adequate for the ordinary living expenses of a student in Chicago, exclusive of books, clothing, railroad fare, and miscellaneous needs. The initial expense for books and materials for the first year averages approximately \$100.00. Some of the books purchased in the first year are used throughout the four years thereby reducing the expenses for upperclassmen.

SCHOLARSHIPS, HONORS, AND PRIZES

SCHOLARSHIPS AWARDED BY COUNTY COMPETITIVE EXAMINATION

County Scholarships. One scholarship is awarded in each county to the high school graduate who passes with the highest average a competitive examination given on the last Saturday in March under the supervision of the County Superintendent of Schools. The grade must be at least 70 per cent. Additional scholarships are awarded in counties with populations in excess of 50,000. All candidates write an examination in English composition and rhetoric and in two of the following fields: mathematics, social studies, natural science. A candidate who has had college work is not eligible.

The Board of Trustees has authorized winners in the above examinations to defer the beginning date of the scholarship in cases where the recipient will not graduate from high school until February next following the March examination. Such candidates must register in the University of Illinois in the second semester of the school year immediately following the examination.

A county scholarship exempts the holder from the tuition fees in any course in the University for four years.

Scholarships for Children of Veterans of World War I, World War II, and the Korean Conflict. By act of the legislature (1947), one scholarship is available in each county each year for a child of a veteran of World War I, one each year for a child of a veteran of World War II, and one each year for a child of a veteran of the Korean conflict. This scholarship is awarded to the candidate who receives the highest grade in the competitive examination held on the last Saturday in March each year as described in the paragraph on the County Scholarships, except that preference is given to children of veterans who are deceased or disabled. It exempts the holder from the tuition fees for four years in any department of the University. Proof of service of the war veteran and of his relationship to the candidate is required.

SCHOLARSHIPS AWARDED FOR MILITARY SERVICE

Military Scholarships. Any person who served in the Army, Navy, Air Force, or Marine Corps of the United States during World War I, or sometime between September 16, 1940, and the termination of the National Emergency proclaimed December 16, 1950, and who has been honorably discharged, is entitled to a scholarship in the University of Illinois if he possesses the necessary entrance requirements and if he was a resident of the state of Illinois or a student in the University of Illinois at the time of enlistment. This scholarship exempts the holder from the tuition fees in any course in the University for four years.

“A scholarship shall not be awarded hereunder, or, if awarded, the benefits shall not be extended, to any person in respect to any period within the scholarship term during which he is receiving financial assistance for educational purposes from the federal government.”

SCHOLARSHIPS AWARDED ON NOMINATION OF MEMBERS OF THE GENERAL ASSEMBLY

Each member of the General Assembly may nominate annually one student from his district for a scholarship in the University. Provision is made for substitute appointments in case the original nominee fails to qualify or discontinues his course. This scholarship exempts the holder from the payment of the tuition fees in any course in the University for a period of four years.

SCHOLARSHIPS AWARDED BY THE ILLINOIS STATE SCHOLARSHIP COMMISSION

The number of first-year scholarships available each year are two for residents of each senatorial district, two for residents of each representative district, and such additional number as appropriated funds permit. To be eligible for a first-year scholarship, each applicant (1) must be a resident of Illinois; (2) must be of good moral character; (3) must have successfully

completed the program of instruction at an approved high school, or currently be enrolled at such a school and engaged in a program which will be completed by the end of the academic year; and in either event his scholarship must place him in the upper half of his graduating class; (4) must not have engaged in any university, college, normal school, junior college, or other advanced training subsequent to his graduation from high school; (5) must be an individual who, because of financial considerations, would be deterred from beginning or completing his education; and (6) must have superior capacity to profit by a higher education. In each fiscal year, competitive examinations are conducted among those eligible for first-year scholarships. Each scholarship is renewable annually for a total of three academic years. The amount of each first-year and each renewal scholarship shall be the smallest of the following amounts: (1) \$600.00; or (2) the amount which equals the annual tuition and other necessary fees required by the institution at which the scholarship is to be used; or (3) such amount as the Commission finds to be appropriate in view of the applicant's financial resources. Scholarships may be used in any qualified institution of higher learning. Further information is available in high school offices.

SCHOLARSHIPS AWARDED BY THE UNIVERSITY COMMITTEE ON SPECIAL UNDERGRADUATE SCHOLARSHIPS

There are several scholarships which are good in any college within the University and which are awarded by the University Committee on Special Undergraduate Scholarships. Application should be made to the Dean of Admissions and Records, University of Illinois, Urbana, Illinois 61803, as soon as possible after March 1 of each year.

GRANTS-IN-AID AWARDED BY THE COLLEGE OF PHARMACY COMMITTEE ON AWARDS AND SCHOLARSHIPS

This committee has at its disposal a number of grants-in-aid which may be awarded on the basis of need. Applications should be addressed to the Dean of the College of Pharmacy.

GRANTS-IN-AID AWARDED BY PHARMACEUTICAL ORGANIZATIONS

The following pharmaceutical organizations or commercial establishments have given funds for grants-in-aid which are awarded primarily upon the scholastic ability and the need of the individual student:

Alumni Association, University of Illinois College of Pharmacy
American Foundation for Pharmaceutical Education
Charles P. Bondy Memorial Fund for Pharmacy
Chicago Retail Druggists Association



COMPOUNDING A PRESCRIPTION

Douglas Pharmaceutical Council
 Ford Hopkins Drug Company
 Gazzolo Drug and Chemical Company
 Goldenrod Ice Cream Company
 Humiston-Keeling Drug Company
 Osco Drug Company
 Phi Delta Chi, Francis Golab Memorial
 Rho Pi Phi
 Sargent's Drug Store
 Maurice Skelton Memorial Fund
 Stineway Drug Company
 Women's Auxiliary of the Chicago Colleges
 Women's Organization of the Chicago Retail Druggists Association

HONORS

Graduation with Honors. A student who complies with the requirements for graduation, and who attains in all work presented for the degree the average grade specified below, may be recommended by the University

Senate for the honors stated: for an average grade of not less than 4.35, graduation with honors; for an average grade of not less than 4.75, graduation with high honors. The honors awarded are noted on the diploma and in the Commencement program.

Honors Day Convocation. An Honors Day Convocation is held annually. Certificates indicating attainment of honors are awarded to members of all four classes who have maintained an average grade of not less than 4.35, and certificates indicating attainment of high honors are awarded to members of all four classes who have maintained an average grade of not less than 4.75. These averages are determined at the beginning of the third quarter of each year. In addition, the prizes indicated in the following section are awarded at this Convocation.

PRIZES

Bristol Laboratories Award. This award is an unabridged medical dictionary presented to an outstanding member of the senior class.

Central Pharmaceutical Journal Prize. The Editor of the Central Pharmaceutical Journal sponsors an annual award of \$25.00 which is given to the member of the graduating class attaining the highest average in courses in pharmacy administration.

Cutler and Nechamkin Prizes. Mr. Bernard N. Cutler and Mr. Gerald Nechamkin, Certified Public Accountants, offer annually two United States Government Bonds with face values of \$100.00 each to the students who have achieved the highest grades in the courses in retail pharmacy management and in principles of accounting.

James E. Davis Award. Delta Kappa Sigma Chapter of Rho Pi Phi professional pharmacy fraternity, sponsors an annual award of a \$50.00 United States Savings Bond in memory of a former faculty adviser, James E. Davis. This prize is given to a senior student who best exhibits the attributes of service, leadership, and character. The recipient must also have an average grade of 3.75 in all required courses upon entering the third quarter of the senior year.

William Baker Day Award. Miss Helen M. Day, the daughter of the late William Baker Day, former Professor of Materia Medica and Botany and Dean of the College of Pharmacy of the University of Illinois, has made available a sum of \$25.00 to be awarded annually in memory of her father to a member of the graduating class for excellence in pharmacology.

Paul Eiche Prize. In 1956 the Illinois Pharmaceutical Association received from the executor of the estate of Mr. Paul Eiche the sum of \$2,000 to be held in trust for the purpose of investing the funds and using the income derived therefrom for procuring a gold medal bearing the inscription

"Paul Eiche Medal." This medal is awarded to a member of the graduating class who has attained the highest general scholastic average upon entering the third quarter of the senior year.

Elich Prize. Mrs. Herman Elich, in memory of Mr. Herman Elich of the Class of 1896, who as an alumnus of the College of Pharmacy originated the Elich prize, continues to offer annually a prize of \$25.00 to the senior student with the highest scholastic average in pharmacognosy.

Ethel J. Heath Scholarship Key. Gamma Chapter of Lambda Kappa Sigma offers annually an honor key to all graduating sorority members having a grade-point average of 4.0 or higher.

Illinois Pharmaceutical Association Women's Auxiliary Award. The Women's Auxiliary of the Illinois Pharmaceutical Association offers annually an award of \$50.00 to the outstanding graduating woman student of the College of Pharmacy. This award is based upon character, leadership, and scholastic achievement in pharmacy.

Illinois Pharmaceutical Travelers Association Prize. The Illinois Pharmaceutical Travelers Association sponsors an annual award of \$100 for a deserving graduating male student who has sustained a grade-point average of 4.0 or better in pharmacy upon entering the third quarter of the senior year. The basis for choosing the recipient is character, leadership, and scholastic achievement.

Johnson and Johnson Award. The Johnson and Johnson Company sponsors an award consisting of a mortar and pestle which is given to the member of the graduating class who has obtained excellence in courses in pharmacy administration.

Lehn and Fink Award. The Lehn and Fink Company gives an award consisting of a plaque incorporating a gold medal to the graduating senior who has achieved the highest scholastic average in his courses in pharmacy.

Merck Award. Merck and Company makes available to outstanding members of the graduating class copies of the Merck Index and the Merck Manual.

Rexall Award. The Rexall Drug Company sponsors an award consisting of a mortar and pestle trophy which is awarded to an outstanding member of the junior class.

Rho Chi Prize. Phi Chapter of Rho Chi, honorary pharmaceutical society, awards annually an embossed copy of the United States Dispensatory as a prize to the sophomore student who has attained the highest scholastic average upon entering the third quarter of the sophomore year.

Samuel Shkolnik Jurisprudence Award. An award of \$100.00, donated in the name of Samuel Shkolnik by Humiston-Keeling Company, is given



OINTMENT PREPARATION

annually to the student earning the highest average in pharmaceutical jurisprudence.

Van Schaack Prize. By the will of Cornelius P. Van Schaack, the College of Pharmacy received in 1937 the sum of \$1,000.00 to be held in trust by the University. The annual income from this bequest is used for the purchase of a gold medal, known as the C. P. Van Schaack Award, which is presented to the senior student who has the highest scholastic average in chemistry upon entering the third quarter of the senior year.

Charles R. Walgreen, Jr. Scholarship Award. This award of \$300.00 is given annually to the junior student who has the highest scholastic average upon entering the third quarter of the junior year.

LOAN FUNDS

Several loan funds have been established for the benefit of worthy students who have satisfactorily completed at least one year of work in the University and are in need of financial aid in order to finish their courses. Information concerning these funds and the regulations governing loans may be obtained from the office of the Dean of the College. The loans described here are for the exclusive use of students of pharmacy.

Ebert Loan Fund. In 1907, following the death of Mr. Albert E. Ebert who had taken an active part in the development of the College of Phar-

macy, the Alumni Association of the College established a fund in memory of Mr. Ebert. Later contributions were made by the Women's Organization of the Chicago Retail Druggists' Association to establish a loan fund. In 1931 the funds were combined into one known as the Albert E. Ebert Loan Fund. The Class of 1932 also contributed to this fund. Loans are made available to deserving students.

Goldenrod Ice Cream Company Loan Fund. Established in 1943, through a gift from the Goldenrod Ice Cream Company of Chicago, this fund provides for loans to students.

Goldstine Emergency Loan Fund. This fund for emergency loans to students was established by the Board of Trustees in 1933. The name was changed in 1943 when the fund was increased by a gift from Mr. Harry Goldstine.

Student Council Emergency Loan Fund. A sum of money available for emergency loans to students in need of financial aid is on deposit with the Chicago Organizational Fund.

Sidney A. Roth Memorial Fund. The Alumni Chapter of the Delta Kappa Sigma Chapter of Rho Pi Phi fraternity has made available an amount equivalent to the tuition and fees for one quarter to students needing financial assistance. The loan is made upon the recommendation of the Dean of the College of Pharmacy.

ORGANIZATIONS

ALUMNI ASSOCIATION OF THE COLLEGE OF PHARMACY

President: MEYER C. BALIN '25, 3745 West Eastwood Avenue, Chicago, Illinois 60625

Vice-President: PAUL S. SANG '26, 6835 Paxton Avenue, Chicago, Illinois 60649

Treasurer: GEORGE L. WEBSTER '22, 1000 Forest Avenue, Wilmette, Illinois

Secretary: SAMUEL SHKOLNIK '25, 111 West Washington Street, Chicago, Illinois 60602

Trustees:

WILLIAM J. BICKET '52, 2700 Sheridan Road, Zion, Illinois

LORENZE B. EYER '28, 7716 South Peoria Street, Chicago, Illinois

MILTON D. PRIZANT '37, 6043 North Artesian, Chicago, Illinois

GEORGE L. SCHARRINGHAUSEN '28, 110 Main Street, Park Ridge, Illinois

WOODROW WEBB '38, 600 High Road, Glen Ellyn, Illinois

Representative (on General Alumni Board):

SAMUEL SHKOLNIK '25, 111 West Washington Street, Chicago, Illinois 60602

STUDENT BRANCH OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

The Student Branch of the American Pharmaceutical Association is the only organization which offers professional membership to all students in the College of Pharmacy. The organization maintains an active professional program and cooperates with the Chicago Branch of the A. Ph. A. in the development of the annual banquet of that organization. Approximately 70 per cent of the students enrolled in the College of Pharmacy are active members of the association. Seniors in good standing in the Student Branch at the time of their graduation are accorded full membership in the American Pharmaceutical Association until January 1 of the succeeding year.

RHO CHI

Phi Chapter of Rho Chi, national pharmaceutical honor society organized to promote the advancement of the pharmaceutical sciences, is located at the College of Pharmacy. Students who have completed 115 quarter hours of work of the professional curriculum with an average of at least 4.0 are eligible for membership.

OTHER PHARMACEUTICAL ASSOCIATIONS

The Chicago Branch of the American Pharmaceutical Association, composed of representative pharmacists of Chicago and vicinity, holds its monthly meetings at the College of Pharmacy. Students of the College of Pharmacy are invited to attend.

The College of Pharmacy holds membership in the American Association of Colleges of Pharmacy. The object of the association is to promote the interests of pharmaceutical education, and all institutions holding membership must maintain certain minimum requirements for entrance and graduation. Through the influence of this association, high standards of education are maintained.

PLAN OF INSTRUCTION

Pharmacy is a health profession concerned with the selection, preservation, standardization, preparation, and distribution of drugs and medicinals. It is based on two groups of fundamental sciences, the physical and the biological. Advancements in these sciences have contributed so much to the health professions that it is imperative for the pharmacist to be thoroughly trained in the fundamental sciences as well as in the applied and professional subjects. Accordingly, ample time in the curriculum of the College of Pharmacy is devoted to the physical and biological sciences and other subjects necessary to the practice of pharmacy.

As there are several allied and related fields to which individuals with a

pharmaceutical training are particularly adaptable, each student is permitted to elect specialized courses during his four years.

The College of Pharmacy offers the last four professional years of a five-year curriculum leading to the degree of Bachelor of Science in Pharmacy, as summarized on pages 29 and 30. The courses included in the basic curriculum are required of all students. Elective courses for each year are determined through consultation with a faculty counselor.

SIGNIFICANCE OF GRADES OF THE COLLEGE OF PHARMACY

Grades given for work in the College of Pharmacy are as follows: A, excellent; B, good; C, fair; D, poor (but passing); E, failure. Numerical equivalents of these grades on the basis of which averages are made are as follows: each hour of A grade carries 5 grade points; each hour of B grade, 4 grade points; each hour of C grade, 3 grade points; each hour of D grade, 2 grade points; each hour of E grade, 1 grade point.

In addition to the above grades, the following symbols are used. The symbol W indicates withdrawal from the course with permission of the Dean. The grade of E may be given to students withdrawn from the course who were doing unsatisfactory work at the time of withdrawal. Withdrawal because of military service is subject to special regulations. If a student is absent from the final examination without excuse acceptable to the Dean, the symbol Ab is used and counts as a failure. If a student is absent from the final examination with excuse acceptable to the Dean, the symbol Ex is used. The mark of Ex entitles the student to an examination later without fee, but becomes a failure, unless removed at the first opportunity approved by the Dean. The symbol Dr indicates that the student was dropped for academic irregularity and counts as a failure.

In order to qualify for graduation, a student must have completed successfully a minimum of 189 quarter hours of the professional curriculum and earned a minimum of 567 grade points. A minimum grade-point average of 3.0 or C, including work taken elsewhere and accepted for advanced credit, is required for graduation. An average of not less than 3.0 must be attained in work done at the University of Illinois. Failures of required courses in the curriculum must be removed by repeating successfully those courses in which a grade of E is obtained. Where a course is repeated, both the original and subsequent grades are included in the average.

Probationary Status. Any student who failed to attain a 3.0 average in the work for which he receives a grade at the end of a quarter is placed on probation. A student can remove himself from probationary status only upon earning a 3.0 average during his next period of registration. A student who is placed on probation may be required to limit his schedule until

probationary status is removed. Any student who consistently earns grades under C may, at the discretion of the Committee on Student Status and Promotion, be denied promotion to the next higher class.

Refusal of Further Registration Because of Poor Scholarship. A student who fails to remove himself from probationary status during his next period of registration may be dropped for poor scholarship. A student who receives either unsatisfactory or failing grades in a substantial portion of the work for which he receives a grade at the end of a quarter may be dropped for poor scholarship. A student who receives failing grades in one-half or more of the work for which he receives a grade at the end of a quarter is dropped for poor scholarship. A student who is refused further registration because of poor scholarship may petition the Committee on Student Status and Promotion for readmission. Reconsideration of the case of a student dropped for poor scholarship does not guarantee readmission. Except for unusual circumstances, a student may be reinstated only once.

Promotion to the Next Higher Class. Any student who, at the end of the academic year, has completed substantially all of the normal program, and has a cumulative grade-point average of 3.0 or better, is promoted to the next higher class. A student who, at the end of the academic year, has a cumulative grade-point average of less than 3.0 may be promoted to the next higher class only with the approval of the Committee on Student Status and Promotion. If a student's cumulative grade-point average is substantially below 3.0, promotion to the next higher class may be withheld.

SUMMARY OF CURRICULUM IN PHARMACY

	FIRST YEAR											
	First Quarter			Second Quarter			Third Quarter			Total		
	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.	Cr.		
Chemistry 111, 112, 113.....	4	4	5	4	4	5	4	4	5	15		
Pharmacy 110, 112.....	1	0	0	3	3	4	..	..	..	4	
Pharmacy Administration 111, 113.	4	0	4	..	..	..	4	0	4	8	
Physical Education 101, 102, 103...	3	0	0	3	0	0	3	0	0	0		
Physics 111, 112, 113.....	3	3	4	3	3	4	3	3	4	12		
	15	7	13	13	10	13	14	7	13	39		
Mathematics 111 or Electives.....	3 - 4			3 - 4			3 - 4			48-51		

	SECOND YEAR											
	First Quarter			Second Quarter			Third Quarter			Total		
	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.	Cr.		
Chemistry 121, 122, 123.....	3	3	4	2	8	4	4	4	5	13		
Pharmacy 121, 122, 123.....	3	3	4	3	3	4	3	3	4	12		
Pharmacy Administration 121.....	4	0	4	..	..	..	..	..	..	4	
Zoology 121, 122, 123.....	2	6	4	2	6	4	2	6	4	12		
	12	12	16	7	17	12	9	13	13	41		
Electives.....				3 - 4			3 - 4			47-49		

	THIRD YEAR										Total Cr.
	First Quarter			Second Quarter			Third Quarter				
	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.		
Chemistry 231, 5342	2	6	4	4	0	4	..	..	..	8
Microbiology 233 . . . . .	..	..	..	..	..	..	3	6	5	5
Pharmacognosy 231, 232, 233	3	3	4	3	3	4	3	3	4	12	
Pharmacy 231, 232, 233	2	6	4	3	3	4	2	3	3	11	
Pharmacy 234 . . . . .	..	..	..	..	..	..	1	0	1	1
Physiology 232, 233	4	..	4	4	0	4	..	..	..	8
	11	15	16	14	6	16	9	12	13	45	
Electives							3 - 4			47-48	

	FOURTH YEAR												Total Cr.
	First Quarter			Second Quarter			Third Quarter						
	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.				
Pharmacology 241, 242, 243.....	3	4	4	3	4	4	3	4	4			12	
Pharmacology 244.....	..	..	..	2	0	2	..	..	..			2
Pharmacy 241, 242, 243.....	3	3	4	3	3	4	3	3	4			12	
Pharmacy Administration 243.....	..	..	..	..	..	..	4	0	4			4
Public Health 241.....	4	0	4	..	..	..	..	..	..			4
	10	7	12	8	7	10	10	7	12			34	
Electives.....	6 - 8			3 - 4			3 - 4			46-50			

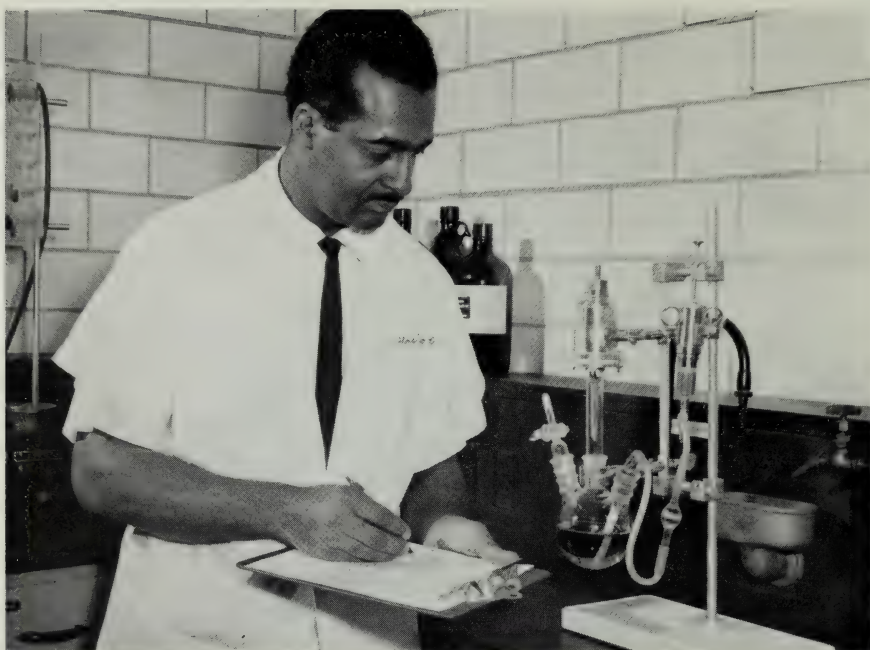
Basic curriculum 162 hours; 189 hours required for graduation.

ELECTIVES AVAILABLE TO BOTH UPPER AND LOWER CLASSMEN

	Didactic	Laboratory	Credit Hours
Chemistry 301.....	2	8	4
Chemistry 335.....	4	0	4
Chemistry 336.....	4	4	5
Chemistry 350.....	2	8	4
English 110.....	3	0	3
English 115.....	3	0	3
English 205.....	3	0	3
English 220.....	3	0	3
English 225.....	3	0	3
English 230.....	3	0	3
English 235.....	3	0	3
Mathematics 115.....	4	0	4
Mathematics 116.....	4	0	4
Mathematics 120.....	4	0	4
Physics 315.....	3	0	3
Psychology 126.....	3	0	3
Psychology 130.....	3	0	3
Sociology 125.....	3	0	3
Zoology 305.....	3	3	4

ELECTIVES AVAILABLE ONLY TO UPPER CLASSMEN

Chemistry 245.....	..	..	(1-4)
Chemistry 343.....	2	6	4
Chemistry 345.....	4	0	4
Chemistry 346.....	2	8	4
Chemistry 349.....	2	6	4
Chemistry 360.....	4	0	4
Parasitology 341.....	4	3	4
Pharmacognosy 245.....	..	..	(1-4)
Pharmacognosy 301.....	3	3	4
Pharmacognosy 302.....	3	3(6)	4(5)
Pharmacognosy 303.....	2	6(9)	4(5)
Pharmacognosy 306.....	2	3	3
Pharmacognosy 314.....	1	6	3
Pharmacognosy 316.....	3	0	3



PHARMACEUTICAL RESEARCH

	Didactic	Laboratory	Credit Hours
Pharmacology 245.....	..	..	(1-4)
Pharmacology 250.....	3	0	3
Pharmacology 310.....	2	6	4
Pharmacy 245.....	..	..	(1-4)
Pharmacy 250.....	1	6	3
Pharmacy 255.....	2	4	3
Pharmacy 260.....	2	8	4
Pharmacy 265.....	2	4	3
Pharmacy 275.....	1	6	3
Pharmacy 280.....	2	0	3
Pharmacy 295.....	1	0	1
Pharmacy 300.....	1	9	4
Pharmacy 305.....	3	0	3
Pharmacy 310.....	2	4	3
Pharmacy Administration 235.....	4	0	4
Pharmacy Administration 240.....	4	0	4
Pharmacy Administration 245.....	..	..	(1-4)
Pharmacy Administration 255.....	4	0	4
Physics 325.....	2	4	3
Zoology 215.....	3	3	4
Zoology 245.....	..	..	(1-4)
Zoology 295.....	1	0	1
Zoology 310.....	2	6	4
Zoology 315.....	3	3	4

COURSES OF INSTRUCTION

The following list of subjects is arranged by departments. The description of each course includes a statement of the number of lectures, recitations,

or laboratory periods each week (each period being fifty minutes unless otherwise specified). The number of didactic periods and laboratory hours are shown in the summary of the curriculum, which also shows the credit in quarter hours. In the description of each course the quarter during which it is given is indicated by a Roman numeral, "I" for the first quarter, "II" for the second quarter, and "III" for the third quarter, followed by an Arabic numeral in parentheses indicating the number of credit hours. For example, "I, (3)" means that the course is given in the first quarter for three hours of credit. The expression "I, II, or III" is used if the course may be taken in any quarter.

CHEMISTRY

- 111, 112, 113. Organic Chemistry.** This course provides a study of the nomenclature, occurrence, uses, physical properties, synthesis, and reactions of organic compounds. The treatment is based on the functional groups of the acyclic, alicyclic, aromatic, and heterocyclic compounds, and includes a consideration of polyfunctional compounds, fats, peptides, carbohydrates, and macromolecules. Concepts of stereoisomerism, resonance, reaction mechanisms, and organic theory are used to illustrate the course material. Three lectures, one recitation, and one four-hour laboratory period each week. I, (5), II, (5) and III, (5). These courses must be taken in sequence. Prerequisite: Inorganic chemistry, qualitative analysis, college algebra, and trigonometry.
- 121. Introduction to Physical Chemistry.** This introductory course outlines the scope of physical chemistry and its relationships and applications to other fields of science. It considers the physicochemical behavior of gases, liquids, and solutions, with special reference to biological phenomena. Physiological aspects of oxidation-reduction, osmotic pressure, electrolytic dissociation, and the properties of colloids are discussed. Three lectures or recitations and one three-hour laboratory period each week. I, (4). Prerequisite: Chemistry 113; Physics 111, 112, 113; Mathematics 111.
- 122. Quantitative Analysis.** The principles, theories, and techniques of volumetric analysis as related to acidimetry and alkalimetry. Oxidation-reduction, precipitation reactions, and spectrophotometry are discussed. Selected laboratory exercises illustrate the principles and theories involved in each type of reaction. Two lectures and two four-hour laboratory periods each week. II, (4). Prerequisite: Mathematics 111; inorganic chemistry and qualitative analysis.
- 123. Biological Chemistry.** General biochemistry presented at an introductory level considers the chemistry of living cells and tissues including the metabolic changes taking place in these labile systems. Replacement reactions, energetics, enzymes, vitamins, and hormones are discussed. Four lectures and one four-hour laboratory period each week. III, (5). Prerequisite: Chemistry 113.

- 231. Drug Assaying.** Basic scientific principles are applied to the standardization and analysis of drugs and pharmaceutical products. Applications of the newer analytical techniques of chromatography, colorimetry, spectrophotometry, and nonaqueous titrations to the control of pharmaceutical products are presented. Two lectures and two three-hour laboratory periods each week. I, (4). Prerequisite: Chemistry 113, 122.
- 245. Senior Research in Chemistry.** The student investigates, under the direction of one or more faculty members, a chemical problem of limited scope. The investigation may include experimentation and library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.
- 301. Systematic Identification of Organic Compounds.** The physical and chemical properties, classification, reactions, and methods of synthesis of typical derivatives are employed in the identification of organic compounds. Special conferences and a minimum of eight hours of laboratory work each week. (4). Prerequisite: Chemistry 113, 121.
- 335, 336. Physical Chemistry.** Atomic and molecular structure, chemical thermodynamics, phase equilibria, chemical equilibria, surface chemistry, electrochemistry, and chemical kinetics are discussed in this two-quarter course. Three class meetings in Chemistry 335 each week and three class meetings and one four-hour laboratory in Chemistry 336 each week. Chemistry 335, II, (4); Chemistry 336, III, (5). Prerequisite: Chemistry 113, 121; Physics 112, 113; Mathematics 115, 116, or concurrent registration in Mathematics 115 for Chemistry 335 and concurrent registration in Mathematics 116 for Chemistry 336.
- 342. Chemistry of Medicinals.** Modern synthetic drugs are studied with regard to their nomenclature, methods of synthesis, and relation to other drugs having similar therapeutic, physical, and chemical properties. Four lectures each week. II, (4). Prerequisite: Chemistry 113.
- 343. Chemical Toxicology.** The common sources, chemistry, methods of isolation, and identification of toxic agents commonly encountered as industrial hazards or as the cause of accidental or purposeful poisoning are discussed. Two lectures and two three-hour laboratory periods each week. III, (4). Prerequisite: Chemistry 113.
- 345. Chemistry of Natural Products.** The occurrence, origin, biological significance, nomenclature, physical and chemical properties, methods of isolation, and pharmaceutical uses of important natural substances are studied. Particular attention is given to the sugars, sugar alcohols, polyhydroxyacids, gums, mucilages, pectins, glycosides, fats, waxes, steroids, hormones, alkaloids, vitamins, enzymes, essential oils, and resins. Four lectures each week. (4). Prerequisite: Chemistry 113, 123.

- 346. Organic Chemistry.** This course is a continuation of the study of organic chemistry with practice in and emphasis on the application of general and special reactions to the synthesis of drugs and chemicals. Two lectures and two four-hour laboratory periods each week. (4). Prerequisite: Chemistry 113, 121.
- 349. Pharmaceutical Assaying.** Chemical and physical methods of analyzing raw materials and dosage forms of medications are discussed. The principles of sampling and the methods of quantitatively separating active compounds from inactive diluent or vehicles are given special considerations. Two class meetings and two three-hour laboratory periods each week. (4). Prerequisite: Chemistry 231.
- 350. Instrumental Analysis.** The principles, methods, and techniques of analytical chemistry using modern electrical and electronic instruments are studied. Two lectures and two four-hour laboratory periods each week. (4). Prerequisite: Chemistry 121, 122.

ENGLISH

- 110. Introduction to Poetry and the Drama.** Selected dramas and various types of poetry are studied and considered as art forms. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric.
- 115. Introduction to Prose Fiction.** The serious novel and short story are introduced, and representative examples in both categories are read and discussed. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric.
- 205. Report Writing.** This course provides an opportunity to study the writing of reports based on research, field surveys, and other data. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric.
- 220. Survey of English Literature since 1800.** The writings of some of the principal figures of British literature in the nineteenth and twentieth centuries are examined. Reading assignments include the works of such authors as Wordsworth, Byron, Carlyle, Tennyson, Browning, Huxley, Hardy, Thackeray, and Shaw. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric. English 115 is preferred but not required.
- 225. Survey of American Literature from the Civil War to the Present.** Examples of American writing from the Civil War to the present time are discussed. Reading assignments include representative literary works with selections from significant critical writing. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric. English 115 is preferred but not required.
- 230. The American Novel.** A historical and critical survey of the development of American prose fiction is presented. It includes intensive reading of such major American authors as Cooper, Melville, James, Hemingway, Faulkner,

and others. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric. English 115 is preferred but not required.

235. **The Contemporary Novel.** The course provides critical survey of the chief British and American novelists from 1900 to the present time. A comprehensive reading of major authors to show significant trends in modern prose fiction is required. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric. English 115 is preferred but not required.

MATHEMATICS

111. **Calculus and Analytic Geometry, I.** Coordinate systems, straight lines, functions and graphs, theory of limits, derivatives and integrals of polynomials, applications of differentiation and integration are presented. This course is designed to provide background for required science courses. Four class meetings each week. I, II, or III, (4). Prerequisite: College algebra and trigonometry.
115. **Calculus and Analytic Geometry, II.** Extreme values; derivatives and integrals of trigonometric, logarithmic, and exponential functions; second degree curves; integration of rational fractions; integration by parts; geometric and physical applications. This course is designed for students desirous of electing advanced chemistry and pharmacy courses. Four class meetings each week. II, (4). Prerequisite: Mathematics 111.
116. **Calculus and Analytic Geometry, III.** Polar coordinates; vectors, parametric equations; introduction to infinite series and differential equations; partial derivatives; double integrals and applications. This course is designed for students desirous of electing advanced chemistry and pharmacy courses. Four class meetings each week. III, (4). Prerequisite: Mathematics 115.
120. **Statistics for Experimenters.** Basic measures of central tendency and variability, frequency distributions, probability, binomial distribution, normal frequency function, basic problems and methods of statistical estimation and inference as applied to the families of probability laws of interest in the experimental sciences; curve fitting and correlation. This course is designed for students interested in advanced biological science and pharmacy courses. Four class meetings each week. II or III, (4). Prerequisite: Mathematics 111.

MICROBIOLOGY

233. **Microbiology.** The characteristics of bacteria, yeasts, and molds; their relation to disease; biologic products and antibiotics prepared from them. Action of antiseptics, disinfectants, and sterilizants are presented. The laboratory work includes the preparation of cultures and stained mounts, isolation and identification of organisms from mixed cultures, and antibiotics. Three lectures and three two-hour laboratory periods each week. III, (5). Prerequisite: Chemistry 123; Zoology 123.

PHARMACOGNOSY

- 231, 232, 233. Principles of Pharmacognosy.** The fundamental botany and pharmacognosy of the principal drugs of vegetable and animal origin are studied by means of lectures, laboratory work, and field trips. Related products of economic importance bearing upon the health of man and animal are considered. Three lectures and one three-hour laboratory period each week. I, (4); II, (4); III, (4). These courses must be taken in sequence. Prerequisite: Chemistry 123; Zoology 123.
- 245. Senior Research in Pharmacognosy.** The student investigates, under the direction of one or more faculty members, a problem of limited scope in pharmacognosy. The investigation may include experimentation and library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.
- 301. Plant Anatomy.** Vascular plants are studied microscopically. Particular attention is given to the development and evaluation of the vascular systems in all parts of the plant. Three lectures and one three-hour laboratory period each week. II, (4). Prerequisite: Pharmacognosy 233.
- 302. Plant Physiology.** Life processes in plants, with particular attention to the cell as the fundamental functional unit, are discussed. The basic principles of plant metabolism are emphasized in relation to essential elements, energy relationship, and other environmental factors. Three lectures or conferences and one three-hour laboratory period each week, I, (4); or three lectures and two three-hour laboratory periods each week, I, (5). Prerequisite: Pharmacognosy 233.
- 303. Systematic Pharmacognosy.** A taxonomic study of the flowering plants, with particular emphasis upon those of drug importance is provided. Relationship of the principal orders and families, rules of nomenclature, and systems of classification are considered. Laboratory work includes identification of species, together with the collection, identification, and preservation of drug plant specimens. Two lectures and two three-hour laboratory periods each week, (4); or two lectures and three three-hour laboratory periods each week, (5). Prerequisite: Pharmacognosy 233.
- 306. Pharmacognosy of the Allergens.** The identification and distribution of hay fever plants is discussed. The course includes an atmospheric survey and the study of wind-borne pollen and fungi spores. Two lectures and one three-hour laboratory period each week. III or summer, (3).
- 314. Histological Techniques.** The theoretical and practical development of the knowledge and skills essential to the preparation of biological materials for microscopic study are considered. One lecture and two three-hour laboratory periods each week. I or II, (3). Prerequisite: Pharmacognosy 233 or permission of the departmental faculty.



EXTRACTION EXPERIMENT IN PHARMACY

316. **Commercial Pharmacognosy.** The traffic in crude drugs and related products are examined with consideration of the basic principles governing the production, distribution, and consumption of these materials. Three lectures or conferences each week. I, (3). Prerequisite: Pharmacognosy 233.

PHARMACOLOGY

- 241, 242, 243. **Pharmacology.** The factors underlying the applications of pharmacologic principles and agents to therapeutic problems are considered. Lectures and discussions are directed to an understanding of the mechanisms and sites of drug actions. Emphasis is placed upon the relationships of physiology, biochemistry, and pathology to the therapeutic applications of drug agents. Three lectures and one four-hour laboratory period each week. I, (4); II, (4); III, (4). These courses must be taken in sequence. Prerequisite: Physiology 233; Chemistry 123; Microbiology 233.
244. **Emergency Aid.** The role of the community pharmacist with respect to the legal and ethical codes as they apply to emergencies arising in the practice

of the profession are outlined. Emphasis is placed upon the description, prevention, and temporary relief measures of emergencies arising from accidents, minor afflictions, self-inflicted injuries, disasters, and national conflicts. Two lectures or conferences each week. II, (2). Prerequisite: Pharmacology 241.

- 245. Senior Research in Pharmacology.** The student investigates, under the direction of one or more faculty members, a pharmacologic problem of limited scope. The investigation may include experimentation and library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.
- 250. Veterinary Pharmacology.** A course designed to acquaint the pharmacist with the application, mechanism of action, and dangers of drugs used in the areas of agriculture and veterinary medicine. Three lectures each week. III, (3). Prerequisite: Pharmacology 242. Pharmacology 250 is offered in alternate years.
- 310. Bioassay.** Official, industrial, and general bioassay procedures are studied with emphasis on their applicability. Their reliability is considered on a statistical basis. Laboratory demonstration periods emphasize the designing, setting-up, and analysis of representative bioassay preparations. Two lectures and two three-hour laboratory demonstration periods each week. II or III, (4). Prerequisite: Pharmacology 241 and permission of departmental faculty. Pharmacology 310 is offered in alternate years.

PHARMACY

- 110. Orientation to Pharmacy.** A series of lectures or discussions intended to introduce the student to the scope and opportunities in the field of pharmacy are presented. Opportunities in research, selling, manufacturing, and hospital pharmacy as well as those in retail practice are included. One class meeting each week. I or II. While successful completion of this course is required, credit toward graduation is not granted.
- 112. General Pharmacy.** The nomenclature, literature, mathematics, and general processes of pharmacy are presented. Two lectures, one recitation, and one three-hour laboratory period each week. II, (4).
- 121. Inorganic Pharmacy.** This course is a survey of the various inorganic compounds of pharmaceutical importance based on the periodic arrangement of the elements. Emphasis is placed on the physical and chemical properties of pharmaceutical significance, as well as the medicinal uses. Three lectures and one three-hour laboratory period each week. I, (4). Prerequisite: Pharmacy 112.
- 122. Elementary Physical Pharmacy.** The principles and laws of physical chemistry are applied to the preparation and study of dosage forms. Two lectures,



JUNIOR-SENIOR PHARMACY DISPENSING LABORATORY

one recitation, and one three-hour laboratory period each week. II, (4). Prerequisite: Chemistry 121; Pharmacy 121.

123. Pharmaceutical Preparations, I. The simpler classes of pharmaceutical preparations are discussed. Included are such classes of preparations as waters, solutions, syrups, etc. Three lectures or recitations and one three-hour laboratory period each week. III, (4). Prerequisite: Chemistry 113; Pharmacy 122.

231. Pharmaceutical Preparations, II. The study of pharmaceutical preparations started in Pharmacy 122 is extended to the more complex formulations. It includes the discussion of preparations in which the process of extraction is involved (i.e., tinctures, fluidextracts, and extracts). Two lectures or recitations and two three-hour laboratory periods each week. I, (4). Prerequisite: Pharmacy 123.

232. Pharmacy Technology. The more complex drug products are discussed in regard to ingredients, formulation, and preparation. Raw materials are grouped according to their pharmaceutical properties and usage. Comparative discussion of the preparation of products by small scale mechanized and extemporaneous methods are presented in lectures and in the laboratory. Two lectures, one recitation, and one three-hour laboratory or demonstration period each week. II, (4). Prerequisite: Pharmacy 231.

- 233. Special Pharmaceutical Formulations.** Pharmaceutical dosage forms applicable to dentistry, animal, and allied health professions are discussed. Two class meetings and one three-hour laboratory period each week. III, (3). Prerequisite: Pharmacy 232.
- 234. Therapeutic Aids and Prosthetics.** This course presents a discussion of the items supplied by pharmacies for use in the treatment or management of the sick or injured patient. Sickroom supplies, bandages, hypodermic syringes and needles, crutches, splints, and oxygen equipment are included. One class meeting each week. III, (1). Prerequisite: Second-year standing.
- 241, 242, 243. Dispensing.** The technics necessary for the extemporaneous compounding of prescriptions and the dispensing of preformed medicinal products are discussed. Laboratory work provides practical experience in the compounding and dispensing of medicinal preparations. Three lectures and one three-hour laboratory period each week. I, (4); II, (4); III, (4). These courses must be taken in sequence. Prerequisite: Pharmacy 233.
- 245. Senior Research in Pharmacy.** The student investigates, under the direction of one or more faculty members, a pharmaceutical problem of limited scope. The investigation may include experimentation and library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.
- 250. Hospital Pharmacy Practice.** This course provides discussions and experience in hospital pharmacy management and practice. One conference period and six hours of practice in hospital pharmacy each week. I, II, or III, (3). Prerequisite: Fourth-year standing.
- 255. Manufacturing Pharmacy.** The small scale mechanized methods of the preparation of the drug and cosmetic products involved in the manufacturing requirements of professional and hospital pharmacies are presented. Two lectures and one four-hour laboratory period each week. I and II, (3). Prerequisite: Pharmacy 232.
- 260. Introduction to Industrial Pharmacy.** This course offers discussion and practice in the development, production, quality control, and production control of pharmaceutical products. Problems involved in both pilot plant and large-scale production are considered. The equipment and facilities necessary for such operations are discussed. Two lectures and two four-hour laboratory periods each week. II or III, (4). Prerequisite: Pharmacy 255.
- 265. Sterile Product Technology.** The principles of formulation and production of sterile products are presented. Two lectures and one four-hour laboratory period each week. III, (3). Prerequisite: Pharmacy 255.
- 275. Cosmetics.** The composition, formulation, and manufacture of selected types of cosmetics are considered. Problems of perfuming, coloring, packaging,



MANUFACTURING PHARMACY LABORATORIES

and preservation are discussed. One lecture and two three-hour laboratory periods each week. I, II, or III, (3). Prerequisite: Third-year or fourth-year standing.

280. **History of Pharmacy.** The history of the profession of pharmacy is studied. Library research on pharmaceutical subjects is required. Two class meetings each week. I, II, or III, (3). Prerequisite: Third-year or fourth-year standing and permission of the departmental faculty.
295. **Seminar in Pharmacy.** The seminar is designed to provide a training period in reading, abstracting, outlining, and presenting current pharmaceutical literature. One class meeting each week. I, II, or III, (1).
300. **Hospital Pharmacy.** Study and practice of the administrative and operational aspects of hospital pharmacies. One lecture and nine hours practice each week. I, II, or III, (4). Prerequisite: Fourth-year standing.
305. **Physical Pharmacy.** Physicochemical principles and laws are applied to the study of pharmaceutical dosage forms. Special emphasis is placed on the relationship of chemical kinetics and catalysis to pharmaceutical incompatibilities and stability. Three lectures each week. I, (3). Prerequisite: Pharmacy 231; Chemistry 336.

- 310. Pharmaceutical Manufacturing Unit Operations.** The theory of operation and the design of the equipment used to carry out the unit operations basic to industrial pharmaceutical manufacturing is presented. Two lectures and one four-hour laboratory period each week. I, II, or III, (3). Prerequisite: Permission of the departmental faculty.

PHARMACY ADMINISTRATION

- 111. Principles of Accounting.** Fundamentals of accounting practice are discussed and applied to retail pharmacy. The discussions include methods applicable to stores operating as individual proprietorships or as partnerships. Four class meetings each week. I, (4).
- 113. Elements of Economics.** This course provides a general survey of the operation of the economic system with reference to the business firm, the determination of price and output, the level of national income and the general price level, the monetary and banking system, government finance, competing economic ideologies, and the economics of health. Four class meetings each week. III, (4).
- 121. Principles of Marketing.** The functions, commodities, and middlemen involved in the marketing of goods and services are discussed. Attention is given to the marketing policies and problems involved in the operation of institutions engaged in producing and distributing pharmaceutical products. Four class meetings each week. I, (4). Prerequisite: Pharmacy Administration 112, 113.
- 235. Pharmaceutical Promotion and Selling Methods.** The fundamentals and technic of promoting and selling pharmaceutical products are examined. Consideration is given to promotional methods and personal selling in marketing activities of manufacturers, wholesalers, and retailers. Four class meetings each week. II, (4). Prerequisite: Pharmacy Administration 121.
- 240. Retail Pharmacy Management.** The operational problems of the retail pharmacy from the viewpoint of those responsible for management decisions are considered. Topics discussed include store establishment and organization; buying, pricing, and selling methods; merchandise planning; expense control; personnel selection and management; and financial analysis. Four class meetings each week. III, (4). Prerequisite: Pharmacy Administration 121.
- 243. Pharmacy Law.** The laws and regulations relating to the practice of pharmacy and the principles of common law bearing upon the work and responsibilities of the pharmacist are presented. Four lectures or recitations each week. III, (4). Prerequisite: Fourth-year standing.
- 245. Senior Research in Pharmacy Administration.** The student investigates, under the direction of one or more faculty members, a problem of limited scope in this field. The investigation may require library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.



ENTOMOLOGICAL RESEARCH

- 255. Principles of Business Law.** The principles of business law covering the subjects of contracts, sales, negotiable instruments, agency and business organizations are discussed. Four lectures or recitations each week. II, (4). Prerequisite: Pharmacy Administration 112, 113.

PHYSICAL EDUCATION

- 101, 102, 103. Physical Education.** The program is designed to develop physical fitness and skills in various recreational activities. Students scoring low on a motor fitness test are assigned to a developmental class. I, II, and III, (1). Credit for these courses is required of all first-year students in the College of Pharmacy. Credit may not be used for graduation.

PHYSICS

- 111, 112, 113. General Physics.** This course presents a study of the fundamental concepts and laws of physics and is designed to give a thorough presentation of the basic principles of classical physics as well as of the more recent developments. Attempts are made to apply the theoretical matter to practical problems. Two lectures, one recitation, and one three-hour laboratory period each week. I, (4); II, (4); III, (4). Prerequisite: College algebra and plane trigonometry. Physics 111 is a prerequisite to either Physics 112 or 113.

- 315. Modern Physics.** Basic tenets of relativity and quantum theories are presented. Topics discussed include elementary particles as well as atomic and nuclear structure. The biological and chemical implications of physics are stressed. Three lectures each week. (3). Prerequisite: Physics 113; Mathematics 111.
- 325. Radioactive Isotopes.** The properties and methods of the detections of radiations are discussed. The use of tracers in radiobiology, medicine, and chemistry, including the applications to therapy and health physics, are included. Methods of assaying and dispensing radioactive pharmaceuticals are emphasized. Two lectures and one four-hour laboratory period each week. (3). Prerequisite: Physics 113; Pharmacy 122.

PHYSIOLOGY

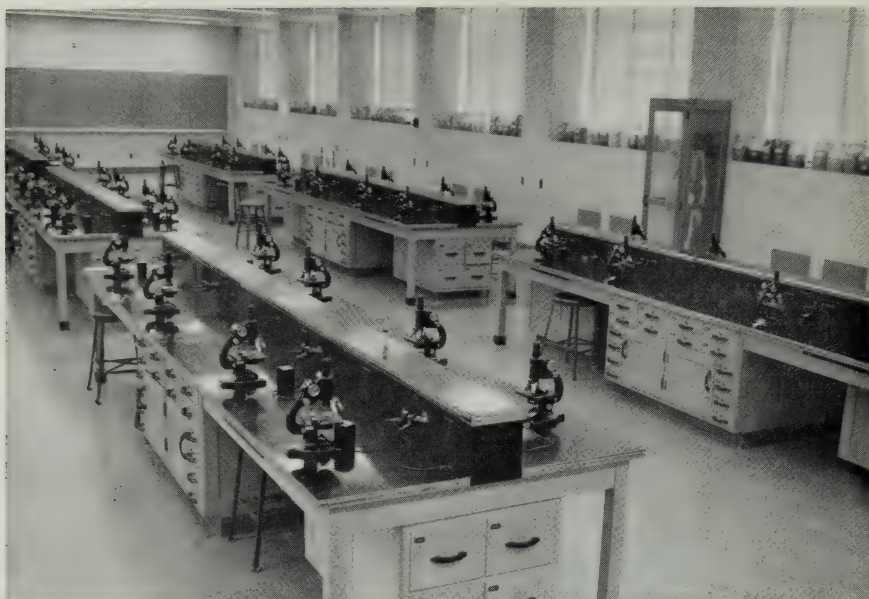
- 232. Human Physiology.** The physiology of blood, heart and circulation, respiration, gastrointestinal tract and liver, kidney, skin, and water balance is discussed. Three lectures and one one-hour demonstration period each week. I, (4). Prerequisite: Zoology 123; Chemistry 123.
- 233. Human Physiology.** The physiology of endocrines, heat regulation, nutrition and metabolism, muscle and nerve, central and autonomic nervous systems, and senses is discussed. Three lectures and one one-hour demonstration period each week. II, (4). Prerequisite: Physiology 232.

PSYCHOLOGY

- 126. Introductory Psychology.** Introductory analysis and description of human behavior. The course systematically considers biological and social aspects of behavior, growth and development, motivation, emotion and adjustment, personality and its appraisal, learning and perception. Three lectures or recitations each week. I, II, or III, (3).
- 130. Applied Psychology.** This course is concerned with the application of the principles of psychology to industry, business, and emotional adjustments. The areas considered include industrial efficiency, advertising techniques, employee and executive selection, detection and treatment of criminals and delinquents, techniques of diagnosis, and principles of personal adjustment. Three class meetings each week. I, II, or III, (3). Prerequisite: Psychology 126.

PUBLIC HEALTH

- 241. Public Health.** The course emphasizes the history and development of public health, epidemiology, diseases transmitted by contact and by arthropods, airborne infection, nutrition, zoonoses, occupational health, environmental health — waste disposal, air pollution, radiation, and housing, maternal and child health, heredity and disease, diseases of personal adjustments and chronic diseases, socioeconomic problems associated with medical care, and geriatrics. Four lectures each week. I, (4). Prerequisite: Microbiology 233.



BIOLOGICAL SCIENCES LABORATORY

Zoology, Mammalian Anatomy, Histology, Entomology, and Pharmacognosy

SOCIOLOGY

- 125. Introductory Sociology.** This course serves as an introduction to the basic structure and the principal forces which influence human society. The fundamental aspects of social organization, culture, socialization and personality, social interaction, collective behavior, and social change are considered. Three lectures or recitations each week. I, II, or III, (3).

ZOOLOGY

- 121. General Zoology.** This course introduces the student to the basic biologic principles of cytology, metabolism, embryology, anatomy, genetics, and evolution as illustrated by the major animal phyla. Two lectures and two three-hour laboratory periods each week. I, (4).
- 122, 123. Mammalian Zoology and Histology.** The structure of man and other mammals as correlated with function is studied. The didactic work is accompanied by the dissection of the cat and the study of histological sections of selected tissues. The fundamentals of mammalian embryology, evolution, adaptation, distribution, and classification are also presented. Two lectures and two three-hour laboratory periods each week. II, (4); III, (4). These courses must be taken in sequence. Prerequisite: Zoology 121.
- 205. Invertebrate Zoology.** This course stresses the morphology, physiology, life cycles, and ecology of free-living invertebrates. It includes laboratory and

field work. Three lectures and one three-hour laboratory period each week. II or III, (4). Prerequisite: Zoology 121.

- 215. General Entomology.** This introductory course stresses the recognition, life histories, morphology, physiology, and distribution of insects and related forms. It provides a background for an understanding of control by the use of insecticides and other means. Three lectures and one three-hour laboratory period each week. III, (4). Prerequisite: Zoology 121.
- 245. Senior Research in Zoology.** The student investigates, under the direction of one or more faculty members, a zoological problem of limited scope. The investigation may include experimentation and library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.
- 295. Seminar in Biology.** The student is required to present a paper resulting from a survey of the literature dealing with a specific topic in biology. I, II, and III, (1 to 3). May be elected for one hour credit in each of three quarters. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.
- 310. Genetics.** This course considers the fundamental principles of biological inheritance and the application of these in the study of plant and animal life. Two lectures and two three-hour laboratory periods each week. I, (4). May be elected in the fourth year only. Prerequisite: Zoology 123.
- 341. Parasitology.** The vertebrates and invertebrates responsible for, or involved in, the transmission of diseases of man and domestic animals are studied. The epidemiology of viral, bacterial, protozoan, and helminthic diseases is stressed, with particular attention given to the various patterns of survival and spread of the parasites and their entry and exit from the host. The Protozoa, Helminths, and Arthropods are used to illustrate the biology of host-parasite and other interspecific biological relationships. Venomous arthropods and reptiles are also considered to complete the study of animals injurious to human health. Four lectures and one three-hour laboratory period each week. I, (4). Prerequisite: Microbiology 233.

(See Graduate College catalog for courses offered to graduate students.)

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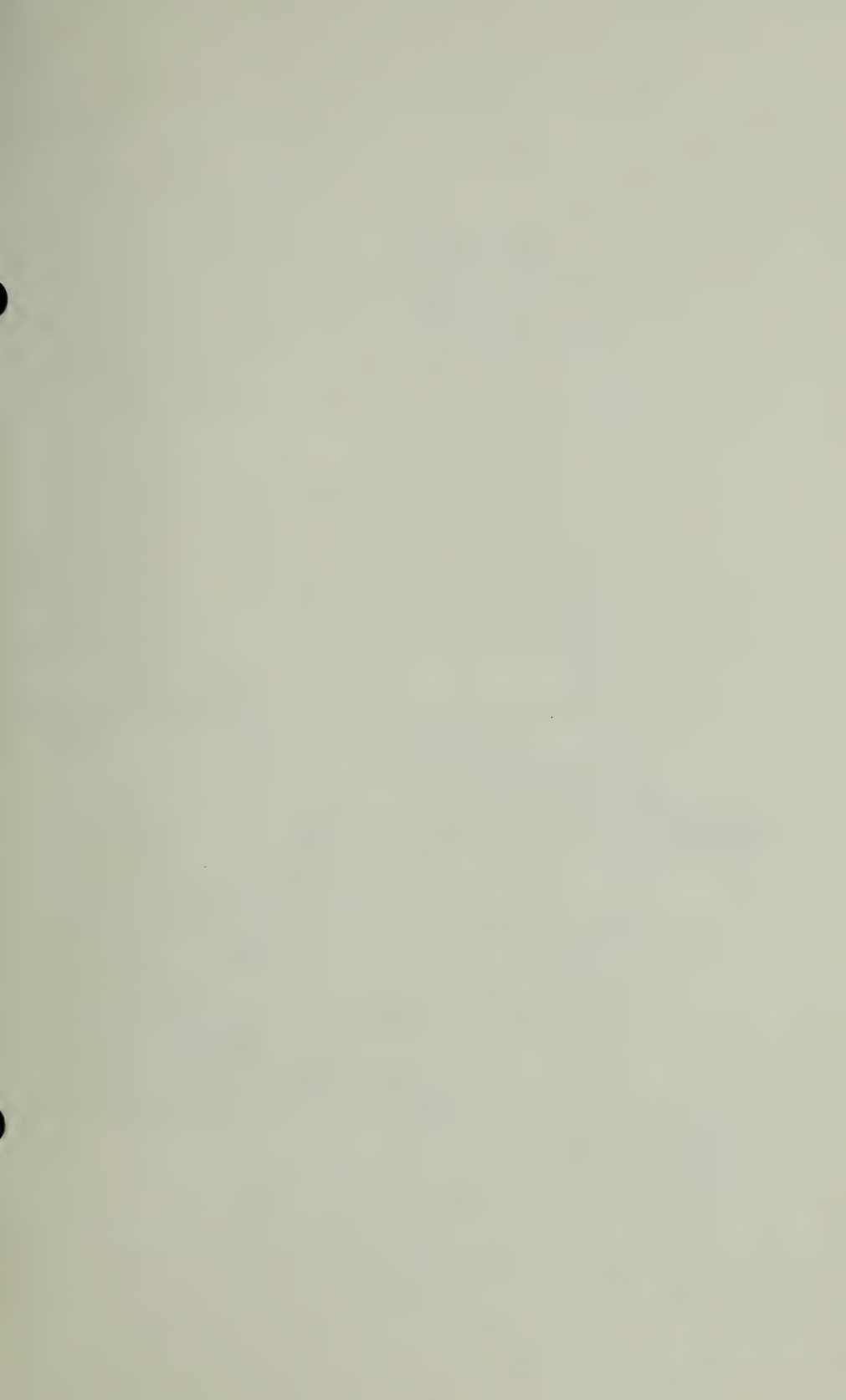
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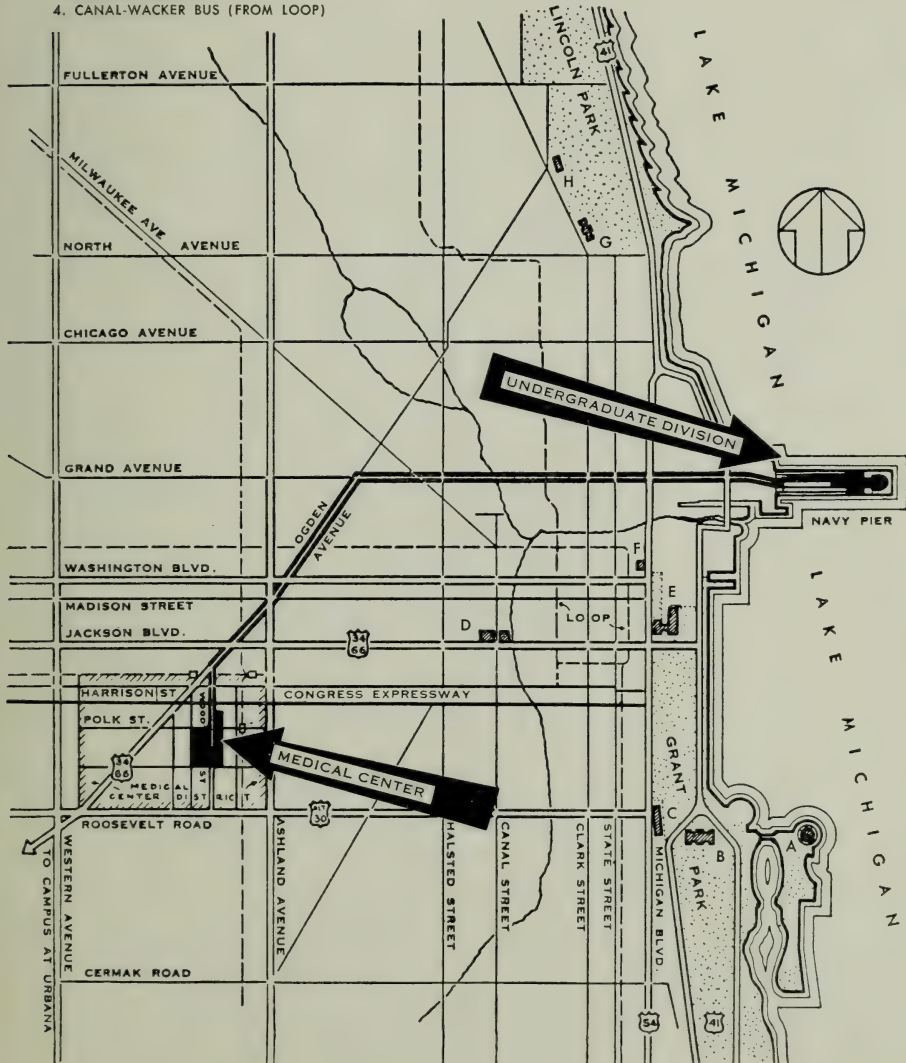
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1965 — FALL QUARTER

September 23, 24.....Registration and orientation
September 27, Monday.....First day of classes
November 25, 26.....Thanksgiving recess
December 11, Saturday.....Quarter ends

1966 — WINTER QUARTER

January 3, Monday.....First day of classes
March 19, Saturday.....Quarter ends

1966 — SPRING QUARTER

March 28, Monday.....First day of classes
May 30, Monday.....Memorial Day
June 11, Saturday.....Quarter ends

1966 — SUMMER QUARTER

June 20, Monday.....First day of classes
July 4, Monday.....Independence Day
July 30, Saturday.....First six-week summer term ends
August 1, Monday.....Second six-week summer term begins
September 5, Monday.....Labor Day
September 10, Saturday.....Second six-week summer term ends

1966 — FALL QUARTER

September 22, 23.....Registration and orientation
September 26, Monday.....First day of classes
November 24, 25.....Thanksgiving recess
December 10, Saturday.....Quarter ends

1967 — WINTER QUARTER

January 3, Tuesday.....First day of classes
March 18, Saturday.....Quarter ends

1967 — SPRING QUARTER

March 27, Monday.....First day of classes
May 30, Tuesday.....Memorial Day
June 10, Saturday.....Quarter ends

1967 — SUMMER QUARTER

June 19, Monday.....First day of classes
July 4, Tuesday.....Independence Day
July 29, Saturday.....First six-week summer term ends
July 31, Monday.....Second six-week summer term begins
September 4, Monday.....Labor Day
September 9, Saturday.....Second six-week summer term ends

1967 — FALL QUARTER

September 21, 22.....Registration and orientation
September 25, Monday.....First day of classes
November 23, 24.....Thanksgiving recess
December 9, Saturday.....Quarter ends

1968 — WINTER QUARTER

January 2, Tuesday.....First day of classes
March 16, Saturday.....Quarter ends

1968 — SPRING QUARTER

March 25, Monday.....First day of classes
May 30, Thursday.....Memorial Day
June 8, Saturday.....Quarter ends

1968 — SUMMER QUARTER

June 17, Monday.....First day of classes
July 4, Thursday.....Independence Day
July 27, Saturday.....First six-week summer term ends
July 29, Monday.....Second six-week summer term begins
September 2, Monday.....Labor Day
September 7, Saturday.....Second six-week summer term ends



BUILDING LOBBY



PHARMACY COLLEGE BUILDING, EAST WING, 1966-1968

COLLEGE OF PHARMACY

HISTORY, LOCATION, AND ADMINISTRATION

HISTORY

The University of Illinois was chartered in 1867 upon the foundation laid by the federal government in 1862 in an act to provide for the "liberal and practical education of the industrial classes in the several pursuits and professions of life." This was the Morrill Land Grant College Act passed by the Congress and signed by President Abraham Lincoln which, in the case of the University of Illinois, granted script for 480,000 acres of land from the sale of which funds for the creation and operation of the University were derived. A gift of approximately one thousand acres of land in Champaign County and of one hundred thousand dollars in county bonds caused the legislature to locate the University of Illinois in the "suburbs of Urbana, adjoining Champaign."

The University opened on March 2, 1868 as the Illinois Industrial University. Its name was changed to the University of Illinois in 1885. An appropriate centennial program is being planned to commemorate the establishment of the University during the period between February 28, 1967 and March 2, 1968.

From its modest beginnings the University has steadily grown to its present distinguished position among the great universities of the United States and the world. The main campus and administrative offices are located in Urbana-Champaign, 128 miles south of Chicago. Two major campuses are located in Chicago's near west side less than one mile apart.

Located at Urbana-Champaign are the Colleges of Agriculture, Commerce and Business Administration, Education, Engineering, Fine and Applied Arts, Journalism and Communications, Law, Liberal Arts and Sciences, Physical Education, Veterinary Medicine, and the Institute of Aviation. Advanced work is offered by the Graduate College, the Institute of Labor and Industrial Relations, the Jane Addams Graduate School of Social Work, and the Graduate School of Library Science. The Division of University Extension and numerous bureaus, institutes, and schools are on this campus.

Located in the midst of one of the world's largest medical centers is the campus of the University of Illinois at the Medical Center. This campus consists of the Colleges of Dentistry, Medicine, Nursing, and Pharmacy. The

Research and Educational Hospitals and numerous other specialized laboratories are located here and are used in support of the various educational activities. Degree programs are also offered in Occupational Therapy, Medical Art, Medical Technology, and Medical Record Administration. More graduate courses and degree programs are offered by the Graduate College at the Medical Center than are found on any other campus of its type.

The Library of Medical Sciences is one of the largest and most complete health sciences libraries in the United States.

Integral parts of the University of Illinois at the Medical Center campus are the Division of Services for Crippled Children, the Medical Research Laboratory, the Institute for Tuberculosis Research, and the Aeromedical Laboratory.

The newest campus is the Chicago Circle facility, representing the latest concepts in educational facilities and located approximately a mile east of the Medical Center. Degree granting curricula are offered by the Colleges of Liberal Arts and Sciences, Business Administration, Engineering, Art and Architecture, and the Division of Education. Increased programs, including a graduate curriculum, are envisioned as completion of the physical facilities progresses.

The College of Pharmacy was originally an independent proprietary institution before becoming affiliated with the University of Illinois, having been organized as the Chicago College of Pharmacy on September 5, 1859. It was established eight years before the University itself was incorporated and was the fifth institution of its kind in the United States. Activities were suspended during the Civil War, and the College was not reopened until 1870. When its property was destroyed by the Chicago fire of 1871, the pharmacists of the world promptly came to the rescue, those of Great Britain in particular. They enabled the College to reopen again in 1872, with new equipment, including a library, much better than before. In 1896, it became the School of Pharmacy of the University of Illinois, and in 1932 its name was changed to the College of Pharmacy when the curriculum leading to the degree of Bachelor of Science was announced. In 1939-1940 the College of Pharmacy was moved to quarters in the Dentistry-Medicine-Pharmacy Building at 808 South Wood Street, from 715 South Wood Street.

Teaching and research facilities of the College were greatly expanded by the completion and occupancy of a new classroom and laboratory building prior to the opening of the fall quarter of 1954. The new six-story East Unit of the Dentistry-Medicine-Pharmacy Building at 833 South Wood

Street now provides administrative and general offices for the Medical Center campus and the College of Pharmacy, lecture halls, classrooms, manufacturing, research, teaching, and dispensing laboratories, and storage space for both teaching and research materials. The curriculum consists of five years of academic training, the first of which may be taken in any accredited junior college, college, or university, followed by four years of professional instruction at the Chicago campus. The College of Pharmacy maintains a program of postgraduate teaching which enables students to earn advanced degrees in chemistry, pharmacy, and pharmacognosy. It also has established refresher courses which enable the University to render state-wide services to the 4,200 community pharmacies and the 9,000 pharmacists of the state.

LOCATION

The campus of the University of Illinois at the Medical Center, which is located about three miles from the Loop, or main business district of the city, can be reached conveniently by elevated train, bus, or automobile. The work of the College of Pharmacy is centralized in the new East Unit of the Dentistry-Medicine-Pharmacy Building at 833 South Wood Street. The work of the Colleges of Dentistry and Medicine, the Graduate College, and the College of Nursing is centralized in the Dentistry-Medicine-Pharmacy Building which faces on Polk, Wood, and Wolcott Streets.

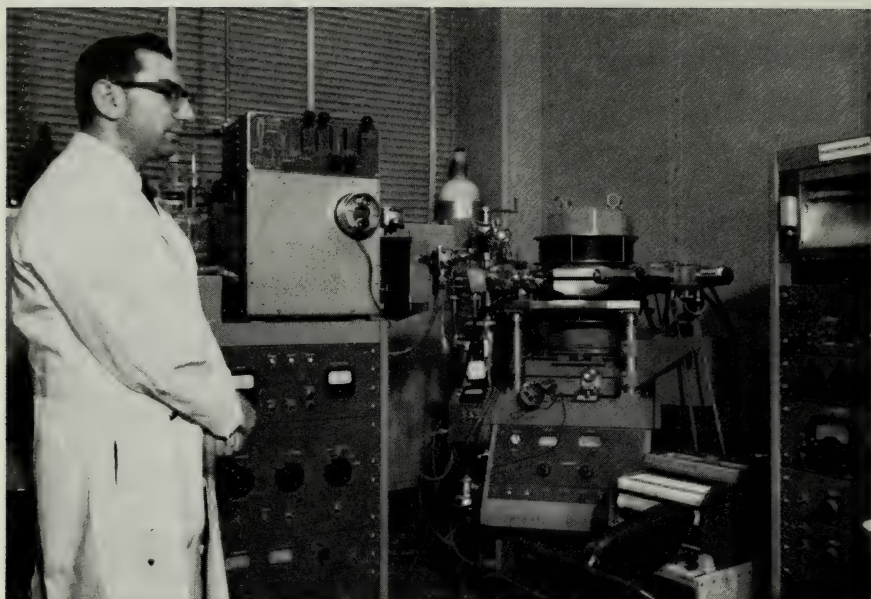
The University of Illinois Research and Educational Hospitals located at 840 South Wood Street and the Presbyterian-St. Luke's Hospital located at 1753 West Congress Street provide excellent facilities for the teaching of hospital pharmacy to both undergraduate and graduate students.

The Drug Plant Experiment Station, located at Downers Grove, Illinois, provides a unique opportunity for the development of drug plant research and the training of graduate students who are majoring in the field of pharmacognosy. The facilities of the Station are augmented by the very extensive plant culture programs of the neighboring Morton Arboretum.

ADMINISTRATION

Under the laws of the state of Illinois, the Board of Trustees of the University of Illinois is composed of eleven members, including the Governor and the Superintendent of Public Instruction who serve ex-officio and nine members elected by the people of the state for terms of six years.

Under the University Statutes adopted by the Board of Trustees, the affairs of the University are administered by the President, the Executive Vice-President and Provost, the Vice-President at the Medical Center, the Vice-President at Chicago Circle, the deans and directors of the colleges



MASS SPECTROPHOTOMETER FOR GRADUATE RESEARCH

and schools, and other administrative officers. The Medical Center campus consists of the College of Dentistry, the College of Medicine, the College of Pharmacy, and the College of Nursing, each having its own dean, and all being under the general supervision of the Vice-President at the Medical Center.

Graduate work at the University of Illinois at the Medical Center is conducted by a division of the Graduate College under the supervision of an Associate Dean. The present work of the Graduate College is described in detail in a separate announcement.

A senate is constituted at each campus of the University and consists of the full professors, the deans of colleges, the directors of schools and institutes, the heads and chairmen of departments, and elected members from each faculty. Any faculty member elected to a senate committee is a member of the senate during his committee membership.

Members of the faculty in each college cooperate with those in other colleges of the University, both in instruction and in research. Staff members of the basic science departments in the College of Medicine also give instruction for students of dentistry, pharmacy, nursing, and occupational therapy.

ACCREDITATION

The College of Pharmacy of the University of Illinois is fully accredited by the American Council on Pharmaceutical Education. The Council is the only accrediting agency for the profession of pharmacy, and is an affiliate of the American Council on Education.

LIBRARY

The library's collection is a comprehensive one of standard and modern works on dental, medical, nursing, pharmaceutical, and allied scientific subjects, with some 2,000 current periodicals and more than 150,462 volumes on its shelves. Its facilities are available for reference use, and most materials may be withdrawn for use outside the reading rooms.

RECREATIONAL FACILITIES

The social and recreational center for all students, alumni, and faculty members is the Chicago Illini Union Building, 715 South Wood Street. Its facilities include a cafeteria, grill, soda fountain, browsing room, music room, gymnasium, meeting rooms, and game rooms. Intramural sports under a trained director are encouraged, and facilities and equipment are available for softball, horseshoes, tennis, archery, wrestling, fencing, badminton, basketball, and ping-pong. Through special arrangements at the nearby Duncan Y.M.C.A., handball and swimming are available to students.

The new Illini Union complex which will house dining rooms, meeting rooms, and additional recreational facilities is scheduled for use in the fall of 1966. Included in this complex is a dormitory for women which will increase the housing accommodations on the campus.

ADMISSION REQUIREMENTS

The curriculum in pharmacy comprises five academic years of college work leading to the degree of Bachelor of Science in Pharmacy. This is a minimum curriculum adopted by all but two accredited colleges of pharmacy in the United States. The two exceptions now require six years of collegiate work leading to a degree of Doctor of Pharmacy.

A person seeking admission to the University of Illinois College of Pharmacy must have been graduated from an accredited secondary school, or have equivalent preparation, and have satisfactorily completed not less than thirty semester hours or equivalent of academic work, exclusive of hygiene, physical education, and military training in an accredited college, junior college, or university.

To be considered for admission the applicant should submit to the Director of Admissions and Records, 1853 West Polk Street, Chicago, Illinois 60612, the following documents: (1) completed application forms, and (2) an official transcript of record in each college, junior college, or university attended.

New classes enroll only once a year and begin in late September. Applications must therefore be completed not later than September 1 of the year in which the student wishes to enroll. Only when the Admissions Committee deems it advisable are applications accepted after September 1.

APPLICATIONS FROM NONRESIDENTS OF ILLINOIS

The Admissions Committee is authorized to accept up to ten per cent of each entering first-year professional class from nonresident applicants. However, only highly qualified nonresident students are considered for admission. Applicants for admission who come from foreign countries must make all arrangements in advance. They must furnish complete official credentials and certify that they are able to meet in full the cost of attending the University. Certificates in a foreign language must be accompanied by certified translations.

SELECTION OF APPLICANTS

In granting admission, the Admissions Committee considers each candidate's qualifications, including his scholastic records from all the colleges and universities of recognized standing which he previously attended. Applicants must present a college average of at least 3.25 in terms of the grading system of the University of Illinois for all academic work previously taken. Students entering the College of Pharmacy from other colleges within the University of Illinois, e.g., Liberal Arts and Sciences, who are eligible for continued registration in the University of Illinois but whose overall average is below a 3.25 but above a 3.00 may petition for admission and may be admitted on a probationary status upon recommendation of the Admissions Committee and the approval of the Dean of the College of Pharmacy.

The grading system in force at the University of Illinois is based on the values of A = 5.0, B = 4.0, C = 3.0, D = 2.0, and E = 1.0 (failure).

All applicants seeking admission to the College of Pharmacy receive formal notification of the action of the Admissions Committee.

READMISSION REQUIREMENTS

A student returning to the College of Pharmacy after remaining out of the College one or more quarters is considered for readmission on the basis of the curriculum in effect at the time of his return. Action taken is for

the student's best interests, and in no case is he penalized for conditions beyond his control. A student dropped for poor scholarship may at the discretion of the Committee on Student Status and Promotion be readmitted on a probationary status but must prove that he can do work on a level required for graduation.

RENEWING APPLICATIONS

An applicant who has been accepted for admission but fails to enroll, and who wishes to enter in a subsequent year, must reapply for admission and must meet all requirements in force at the time of the new application.

HIGH SCHOOL REQUIREMENTS

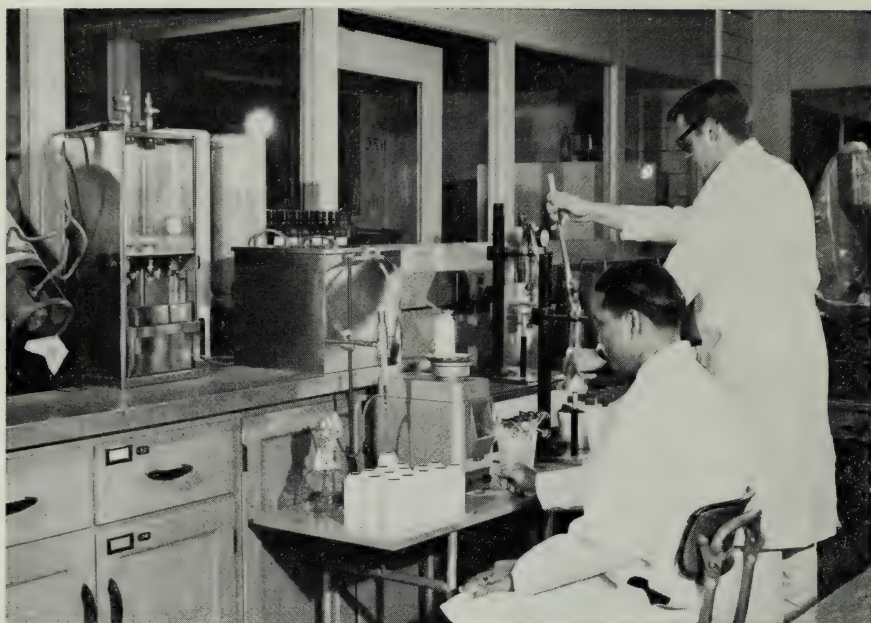
In preparing to enter college for the study of pharmacy, certain high school courses are required to fulfill the fifteen units of acceptable school work. The completion of three years of English, one year of algebra, and one year of plane geometry are among the requirements. After June 1, 1966, the College of Liberal Arts and Sciences of the University of Illinois will require, in addition to the foregoing, two years of Latin or a modern foreign language for admission to the prepharmacy curriculum. A fourth year of English and additional mathematics are helpful but not required. Such courses as biology, chemistry, and physics serve as a foundation for future courses in the College of Pharmacy. The study of history and sociology is also of great value. Skill in the use of a typewriter is an asset to the pharmacy student.

COLLEGE REQUIREMENTS

College work submitted to meet the entrance requirements of the College of Pharmacy must include a minimum of credit in the following courses: general or inorganic chemistry, including qualitative analysis, eight semester hours; college algebra, three semester hours; plane trigonometry, two semester hours; and English composition, six semester hours. The elective courses selected to complete the required thirty semester hours should not include courses offered in the College of Pharmacy but those which will increase the social and cultural background of the student. If credit in courses required in the College of Pharmacy curriculum is offered to meet the minimum admission requirement, the student is required to elect an equivalent number of hours to meet the requirement for graduation.

Upon completion of the pre-pharmacy requirements it is expected that students desiring a degree in pharmacy will apply for registration in the College of Pharmacy.

A student may apply for admission and receive advanced standing in the



RESEARCH LABORATORY IN PHARMACY

professional curriculum for the completion of any or all of the following courses completed in an approved college or university. If all are completed, enrollment for a summer session in the College of Pharmacy in Pharmacy 110 and Pharmacy 112 will complete the requirements of the first professional year.

Organic Chemistry, including laboratory.....	10 semester hours
General College Physics.....	8 semester hours
An introductory course (or courses) in Analytical Geometry and the Calculus equivalent to at least.....	3 semester hours
Principles of Accounting.....	3 semester hours
Introduction to Economics.....	3 semester hours
Electives which may include more than the minimum hours of the above or other courses in the Humanities or Social Sciences....	4 semester hours

ADMISSION BY TRANSFER

A person presently enrolled or who has previously attended a college of pharmacy of recognized standing is considered for admission upon presentation of an official transcript of his entire collegiate record showing him to be in good standing at the time of his withdrawal from the institution he last attended. College work completed with a grade of "C" (3.0) or better in addition to the preprofessional requirements, is considered in granting advanced standing in the College of Pharmacy. The degree of Bachelor of Science in Pharmacy is never granted to a student who has not

been in residence in this or another college of pharmacy for a minimum of three academic years.

DEPOSIT

Each applicant who is assigned a place in any class in the College of Pharmacy is required to make a deposit of \$30.00 within two weeks of the date of notification that he will be admitted. This deposit is applied on fees assessed against him at the time of registration. Failure to pay this deposit within the specified time subjects the applicant to forfeiture of his place. No deposit is refunded unless the applicant notifies the Associate Dean of Admissions and Records at least thirty days before the time for registration that he will not matriculate.

PHYSICAL REQUIREMENTS

Evidence of satisfactory health is desirable before enrollment, and a certificate attesting to the applicant's health is requested from the Health Service of the last institution attended or from the applicant's private physician.

Each applicant is advised to contact a physician in regard to his health, the possible need for glasses or correction of other defects, and to insure that immunizations for smallpox, tetanus, and poliomyelitis are up to date.

Each student accepted for admission is required to report to the University Health Service for a medical examination, laboratory tests, and immunizations. If immunizations are done beforehand by a private physician and the results in writing are brought in, much time can be saved.

Appointments for the physical examination by the Health Service can be made by telephone, 663-7420, or in person at Room 130, Research and Educational Hospitals, 840 South Wood Street, Chicago 60612. These appointments should be made as soon as possible after the letter of acceptance is received. Enrollment in the College of Pharmacy is not continued without approval from the Health Service.

GRADUATION REQUIREMENTS

A candidate for the degree of Bachelor of Science in Pharmacy must meet the following general requirements: (1) be of good moral character, (2) pay all indebtedness to the University, (3) obtain passing grades in all courses of the required curriculum, and (4) have completed the four-year professional curriculum of 189 quarter hours with a minimum average of "C," equivalent to a minimum grade-point average of 3.0 including grades in courses transferred from other institutions. In addition, he must have a "C" average (3.0) for all courses taken in the College of Pharmacy

of the University of Illinois or transferred from other branches of the University of Illinois. All grades in courses which count toward graduation are used in computing the average necessary for graduation. Where a course has been repeated, both the original and subsequent grades are included in the average. Either the first three years of work in the professional curriculum, or the last year, must be done in the College of Pharmacy.

STATE REGISTRATION OF PHARMACISTS

The Pharmacy Practice Act of the state of Illinois in effect January 1, 1956, provides among other things that:

Sec. 6(a). "Any person shall be entitled to registration as a registered pharmacist who is not less than 21 years of age, of good moral character and temperate habits, a graduate of an accredited high school or whose education is equivalent thereto in the discretion of the Board, a graduate of a course of at least four academic years with a pharmaceutical degree from a school or college of pharmacy or department of pharmacy of a university recognized and approved by the Department and who has had at least one year of pharmacy apprenticeship experience from and after the successful completion of at least one academic year of attendance in a school or college of pharmacy or department of pharmacy of a university recognized and approved by the Department, in assisting in the practice of pharmacy under a registered pharmacist in a drug store or pharmacy in this State or in any other State, or in a drug store or pharmacy in a hospital, or similar institution conducted by the Army, Navy, Air Corps, Marine Corps, Coast Guard, Veteran's Administration, or Public Health Service of the United States, or by the State Militia or National Guard of any State thereof, where the practice of pharmacy, including the compounding of prescriptions, is carried on, and who shall pass a satisfactory examination prescribed by the Board of Pharmacy.

(b) "No person shall be registered as a registered pharmacist who is not a citizen of the United States, or who has not made a declaration of intention to become a citizen, or who, having made such declaration of intention, has not filed a petition for naturalization within 30 days after becoming eligible to do so, and no certificate of registration as a registered pharmacist shall be continued or renewed for any person, who having made such declaration of intention has not filed a petition for naturalization within 30 days after becoming eligible to do so.

(c) "The Department of Registration and Education may in its discretion register as a registered pharmacist, without examination, any person who is duly registered as a pharmacist by examination in some other State, provided that the said person shall produce evidence satisfactory to the

Board of having had the required secondary and professional education and training, and is possessed of good moral character and temperate habits, as required of applicants for registration as pharmacists under the provisions of this Act; provided, that persons of good moral character and temperate habits who have become registered as pharmacists by examination in other states prior to the effective date of this Act, shall be required to satisfy only the requirements for registration as pharmacists which existed in this State at the time they became registered as pharmacists in such other states, and provided also, that the state in which each said person is registered shall, under like conditions, grant reciprocal registration as a registered pharmacist, without examination, to a registered pharmacist duly registered as such by examination in this State. . . . The person who shall be registered as a registered pharmacist, by reciprocity, under the provisions of this subsection, shall have the authority to practice the profession of pharmacy in this State, the same as a registered

STUDENT RESIDENCE HALL



pharmacist who shall be registered, by examination, under the provisions of this Act.”

The Pharmacy Practice Act provides further that:

(f) “Any person shall be entitled to registration as a registered pharmacy apprentice who is of the age of 16 years or over, of good moral character and temperate habits, employed in a drug store or pharmacy in this State under the personal supervision of a registered pharmacist in good standing in this State, a graduate from an accredited high school or comparable school or educational institution recognized by the Department, and who shall have filed a written application therefor, on a form to be prescribed and furnished by the Department for that purpose, accompanied by a fee of \$2. . . . The pharmacy apprenticeship experience required of any applicant for registration as a registered pharmacist . . . shall be computed from and after the successful completion of at least one academic year of attendance in a school or college of pharmacy or department of pharmacy of a university recognized and approved by the Department.

(d) “The year of the required pharmacy apprenticeship experience under this Act shall consist predominantly in assisting registered pharmacists under their direct personal supervision in the practice of pharmacy, including, but not limited to, the compounding and dispensing of prescriptions, the preparing of pharmaceutical preparations, the keeping of records and the making of reports required under local, state and federal laws relating to the operation of a pharmacy and to the practice of pharmacy, and such other duties as may be recommended by the Board of Pharmacy and approved by the Department.”

Questions relative to the apprenticeship training requirements and other qualifications for examination and licensure as a pharmacist should be directed to the Department of Registration and Education, State of Illinois, Springfield, Illinois.

GRADUATE STUDY

The University of Illinois College of Pharmacy offers programs leading to the degrees of Master of Science and Doctor of Philosophy in Pharmaceutical Chemistry, Pharmacognosy, and Pharmacy. Admission to the graduate program in any of these disciplines is governed by the general regulations and requirements of the Graduate College of the University of Illinois at the Medical Center in Chicago.

Students planning for study leading to an advanced degree in chemistry must have the degree of Bachelor of Science in Pharmacy or Chemistry. Those desiring admission to a graduate curriculum in Pharmacy must have

either a Bachelor of Science in Pharmacy or a Bachelor of Pharmacy degree or an equivalent professional degree. Pharmacognosy requires a Bachelor of Science in Pharmacy before admission is granted to the curriculum in this discipline.

Students interested in the advanced programs of study should direct their inquiries to the heads of the respective departments in which they plan to work toward the advanced degree. Requirements and courses offered are listed in the official bulletin of the Graduate College.

STUDENT HOUSING

Excellent residence hall accommodations are available in a location convenient to all campus functions. The Student Residence Hall provides single and double rooms for 412 men and women. A new, fully air-conditioned Women's Residence Hall scheduled for completion by the fall quarter, 1966, will house 177 women during the academic year and both men and women in the summer months.

All rooms are equipped with single beds, storage chests, study desks and chairs, adequate closet space, and related accessory items. Weekly maid service is provided. Facilities also include central washrooms, automatic elevators, laundry rooms equipped with washers and dryers, a recreation room, lounge, and a television viewing area. The counseling staff assists students in their personal development and an active student association organizes social programs and events throughout the year. A wide selection of expertly prepared foods are offered daily by a professionally trained food service staff.

The residence hall contract includes room and board (20 meals per week) and is payable in full, quarterly, or by installments. For current rates, application forms, and additional information about housing, write to the Housing Office, P.O. Box 6998, Chicago, Illinois 60680.

The new Illini Union building, also scheduled to open by the fall quarter, 1966, is inter-connected with the residence halls. Its facilities include a music lounge, art lounge, bowling lanes, barber shop, bookstore, food service, meeting rooms, activities offices, etc. These facilities complement the adjacent residence hall facilities to provide the resident with an outstanding total living environment.

FEES AND EXPENSES

A schedule of quarterly fees for students in the College of Pharmacy is listed below. One-third of each year's fees is payable on registration for each

quarter. The Board of Trustees of the University reserves the right to change the fees at any time through publication in the annual announcements.

	Range I		Range II		Range III	
	<i>Above 10 quarter hours or above 2 units</i>		<i>Above 5 hours or 1 unit up to and including 10 hours or 2 units</i>		<i>Above 0 up to and including 5 hours or 1 unit</i>	
	Resident	Nonresident	Resident	Nonresident	Resident	Nonresident
Tuition (except those holding exemptions)	\$ 57.00	\$250.00	\$40.00	\$175.00	\$25.00	\$ 90.00
Service Fee ¹	37.00	37.00	24.00	24.00	14.00	14.00
Hospital-Medical-Surgical Insurance Fee ²	6.00	6.00	6.00	6.00	6.00	6.00
Total	\$100.00	\$293.00	\$70.00	\$205.00	\$45.00	\$110.00

¹ Persons on the academic, administrative, or permanent nonacademic staff of the University, or on the staffs of allied agencies, and persons registered in absentia or off-campus are exempt from this fee.

² Students presenting evidence of equivalent coverage may receive a waiver of the Hospital-Medical-Surgical Insurance Fee upon approval of a petition submitted to the University Insurance Office not later than the final day established for full refund of fees. Persons registered for thesis research in absentia are not assessed this fee. Married students may obtain family coverage by the payment of additional fees but must make arrangements at time of registration.

Change of Program Fee. A fee of \$1.00 is charged for every change slip issued at the request of the student.

Late Registration Fine. Former students who register after the regular registration days in any quarter pay a late registration fine of \$15.00.

Special Examination Fee. For any special examination given in a course which has been failed, the fee is \$10.00.

Transcript Fee. Each student who has paid all his University fees is entitled to receive, without charge, one transcript of his record. For each additional transcript the fee is \$1.00.

Unclassified Students. Unclassified students pay fees on the same scale as classified students.

Visitor's Fee. Persons not holding tuition waivers who register for less than a full program of credit courses (Range II or III) pay for each noncredit course \$15.00. (This is in addition to the required tuition and fees for credit courses.) If taken alone, noncredit courses other than thesis research and seminar are assigned to Range III.

SERVICE CHARGE FOR DEFERRED FEES

Students may arrange for deferment of fees (installment payments) by calling at the Business Office, 187 East Dentistry-Medicine-Pharmacy Building. A nonrefundable service charge of \$2.00 a quarter is charged for the privilege of deferring fees. The service charge, not less than one-third

of the current quarter's fees, and all fees and charges from previous terms must be paid on the day of registration. Registration is not completed until fees are paid in full, and failure to meet payments within the time limit cancels the privilege of attending classes.

REFUNDS

If a student withdraws during the first ten days of a quarter, his total fees are refunded with the exception of a non-refundable amount of \$20.00. If he withdraws after ten days attendance but before one-half of the quarter has elapsed, a refund of one-half of his total fees is made after the deduction of the above mentioned amount. No refund is made if the student withdraws after one-half of the quarter's work has elapsed.

EXPENSES

From \$110.00 to \$150.00 a month may be regarded as adequate for the ordinary living expenses of a student in Chicago, exclusive of books, clothing, railroad fare, and miscellaneous needs. The initial expense for books and materials for the first year averages approximately \$100.00. Some of the books purchased in the first year are used throughout the four years, thereby reducing the expenses for upperclassmen.

SCHOLARSHIPS, HONORS, AND PRIZES

SCHOLARSHIPS AWARDED ON THE BASIS OF A COMPETITIVE EXAMINATION

A number of scholarships are awarded annually in each county on the basis of a competitive examination. The examination is of the objective type and is designed to measure abilities which predict success in the University. It is based on knowledge and skill normally acquired before completion of secondary education.

Students should make inquiry of their county superintendent of schools or high school principal no later than October 1 concerning the date and place of the examination for scholarships to begin the following June or September. Application for any of the following scholarships, which are awarded on the basis of this examination, should be made to the county superintendent of schools of the county in which the applicant resides. Unless otherwise stated, all the scholarships can be used only at the University of Illinois. All are of equal value and exempt the holder from tuition. They do not cover other fees.

County Scholarships. Two County Scholarships are awarded to the highest ranking candidates in each county.

Value: Tuition waiver for four years.

Scope: May be used in any course at any of the six state-supported universities in Illinois.

Eligibility: Candidate must be a resident of Illinois and of the county where application is made. Awarded only to high school graduating seniors; individuals who have had any college-level work after high school graduation are not eligible.

Special County Scholarships. Additional scholarships are awarded in counties with populations in excess of 100,000.

Value: Tuition waiver for four years.

Scope: May be used in any course at the University of Illinois.

Eligibility: Candidate must be a resident of Illinois and of the county where application is made. Awarded only to high school graduating seniors; individuals who have had any college-level work after high school graduation are not eligible.

Veterans' Children's Scholarships. One scholarship is awarded in each county to a child of a veteran of World War I, one to a child of a veteran of World War II, and one to a child of a veteran who served at any time during the national emergency between June 25, 1950, and January 31, 1955. Preference is given to candidates whose fathers are deceased or disabled. *A candidate for one of these scholarships must submit promptly evidence of his father's service (honorable discharge or photostat thereof), and an affidavit from the father or mother to establish the fact that the candidate is a child of the veteran, and whether or not the father is deceased or disabled.*

Value: Tuition waiver for four years.

Scope: May be used in any course in the University of Illinois.

Eligibility: Candidate must be a resident of Illinois and of the county where application is made. Children of veterans may compete even if they have had college work in the University of Illinois or any other college. There is no special average required for this college work.

GENERAL ASSEMBLY SCHOLARSHIPS

Each member of the Illinois General Assembly may nominate each year one student from his district for a four-year scholarship. Original nominations must be made before the beginning of the school semester. The law provides also for appointments to fill vacancies of unused portions of scholarships.

Value: Tuition waiver for four years unless the award is for the unused portion of a scholarship for less than four years.

Scope: May be used in any course in the University of Illinois.

Eligibility: Nominee must be a resident of Illinois and of the district from which he is nominated.

MILITARY SCHOLARSHIPS

A statute provides a four-year tuition scholarship for each veteran who served in World War I if he entered the service between April 6, 1917, and November 11, 1918, and for each veteran who served in the Armed Forces at any time after September 16, 1940, provided eligibility requirements listed below are met.

Value: Tuition waiver for four years.

Scope: May be used in any course at any of the six state-supported universities in Illinois.

Eligibility: Veteran must have been honorably discharged (separated) from active service, and prior to entering active service must (a) have been a bona fide resident of Illinois, or (b) have been a bona fide resident of Illinois until at least six months prior to entering active service, have returned to Illinois within six months after leaving active service, and have resided in Illinois not less than one year immediately prior to the date of application for the scholarship, or (c) have been a student at one of the state-supported universities in Illinois at the time of entering active service.

Limitation: Not available to veterans who are receiving financial aid from the federal government for educational purposes.

SCHOLARSHIPS AWARDED BY THE ILLINOIS STATE SCHOLARSHIP COMMISSION

By authorization of the state legislature, funds are provided for scholarships which may be used in any approved college or university in Illinois. High school seniors who rank in the top 50 per cent of their graduating classes may write the State Scholarship examination. Approximately 2,500 awards are made each year to entering freshmen. The scholarships are awarded to the best qualified applicants on the basis of high school academic record and performance on a state examination, who can show financial need. High-ranking candidates who do not show financial need are given honorary awards. Cash awards are limited to tuition and fees, and may not exceed \$750 a year. These are annual awards but are renewed for three additional years if the holder maintains a satisfactory record and shows financial need. These awards are administered by the Illinois State Scholarship Commission. Applications for these scholarships are available through high school principals.

**SCHOLARSHIPS AWARDED BY THE UNIVERSITY COMMITTEE
ON SPECIAL UNDERGRADUATE SCHOLARSHIPS**

There are several scholarships which are good in any college within the University and which are awarded by the University Committee on Special Undergraduate Scholarships. Application should be made to the Director of Undergraduate Scholarship Program, 907 South Sixth Street, University of Illinois, Champaign, Illinois 61820, as soon as possible after November 1 of each year.

**GRANTS-IN-AID AWARDED BY THE COLLEGE OF PHARMACY
COMMITTEE ON AWARDS AND SCHOLARSHIPS**

This committee has at its disposal a number of grants-in-aid which may be awarded on the basis of need. Applications should be addressed to the Dean of the College of Pharmacy.

GRANTS-IN-AID AWARDED BY PHARMACEUTICAL ORGANIZATIONS

The following pharmaceutical organizations or commercial establishments have given funds for grants-in-aid which are awarded primarily upon the scholastic ability and the need of the individual student:

Alumni Association, University of Illinois College of Pharmacy

American Foundation for Pharmaceutical Education

Charles P. Bondy Memorial Fund for Pharmacy

Chicago Retail Druggists Association

Douglas Pharmaceutical Council

Gazzolo Drug and Chemical Company

Goldenrod Ice Cream Company

Myron Goldsmith Memorial Fund

Humiston-Keeling Drug Company

Ladies Auxiliary of the Chicago Retail Druggists' Association

Al R. Langerman Memorial Fund

Osco Drug Company

Phi Delta Chi, Francis Golab Memorial

Rho Pi Phi

Maurice Skelton Memorial Fund

Women's Auxiliary of the Chicago Colleges

Women's Auxiliary of the Illinois Pharmaceutical Association

Women's Organization of the Chicago Retail Druggists' Association

HONORS

Graduation with Honors. A student who complies with the requirements for graduation, and who attains in all work presented for the degree the average grade specified below, may be recommended by the University Senate for the honors stated: for an average grade of not less than 4.35,



COMPOUNDING A PRESCRIPTION

graduation with honors; for an average grade of not less than 4.75, graduation with high honors. The honors awarded are noted on the diploma and in the Commencement program.

Honors Day Convocation. An Honors Day Convocation is held annually. Certificates indicating attainment of honors are awarded to members of all four classes who have maintained an average grade of not less than 4.35, and certificates indicating attainment of high honors are awarded to members of all four classes who have maintained an average grade of not less than 4.75. These averages are determined at the beginning of the third quarter of each year. In addition, the prizes indicated in the following section are awarded at this Convocation.

PRIZES

Bristol Laboratories Award. This award is an unabridged medical dictionary presented to an outstanding member of the senior class.

Cutler and Nechamkin Prizes. Mr. Bernard N. Cutler and Mr. Gerald Nechamkin, Certified Public Accountants, offer annually two United States Government Bonds with face values of \$100.00 each to the students who

have achieved the highest grades in the courses in retail pharmacy management and in principles of accounting.

James E. Davis Award. Delta Kappa Sigma Chapter of Rho Pi Phi professional pharmacy fraternity, sponsors an annual award of a \$50.00 United States Savings Bond in memory of a former faculty adviser, James E. Davis. This prize is given to a senior student who best exhibits the attributes of service, leadership, and character. The recipient must also have an average grade of 3.75 in all required courses upon entering the third quarter of the senior year.

William Baker Day Award. Miss Helen M. Day, the daughter of the late William Baker Day, former Professor of Materia Medica and Botany and Dean of the College of Pharmacy of the University of Illinois, has made available a sum of \$25.00 to be awarded annually in memory of her father to a member of the graduating class for excellence in pharmacology.

Paul Eiche Prize. In 1956 the Illinois Pharmaceutical Association received from the executor of the estate of Mr. Paul Eiche the sum of \$2,000 to be held in trust for the purpose of investing the funds and using the income derived therefrom for procuring a gold medal bearing the inscription "Paul Eiche Medal." This medal is awarded to a member of the graduating class who has attained the highest general scholastic average upon entering the third quarter of the senior year.

Elich Prize. Mrs. Herman Elich, in memory of Mr. Herman Elich of the Class of 1896, who as an alumnus of the College of Pharmacy originated the Elich prize, continues to offer annually a prize of \$25.00 to the senior student with the highest scholastic average in pharmacognosy.

Faculty Scholarship Award. The faculty of the College of Pharmacy sponsors a \$200.00 scholarship for the member of the sophomore class who has attained the highest scholastic average upon entering the third quarter of the sophomore year. This average is to be based on 71 hours of work in the required subjects taken at the University of Illinois.

Myron Goldsmith Presidential Award. A plaque is presented each year to the President of the senior class in memory of Myron Goldsmith.

Ethel J. Heath Scholarship Key. Gamma Chapter of Lambda Kappa Sigma offers annually an honor key to all graduating sorority members having a grade-point average of 4.0 or higher.

Ralph M. Henninger Award. In memory of Ralph M. Henninger, a plaque is given annually to the graduating senior who has achieved the highest scholastic standing in the courses in pharmacy upon entering the third quarter of the senior year.



OINTMENT PREPARATION

Illinois Pharmaceutical Travelers Association Prize. The Illinois Pharmaceutical Travelers Association sponsors an annual award of \$100.00 for a deserving graduating male student who has sustained a grade-point average of 4.0 or better in pharmacy upon entering the third quarter of the senior year. The basis for choosing the recipient is character, leadership, and scholastic achievement.

Johnson and Johnson Award. The Johnson and Johnson Company sponsors an award consisting of a mortar and pestle which is given to the member of the graduating class who has obtained excellence in courses in pharmacy administration.

Ladies Auxiliary of the Chicago Retail Druggists' Association Award. A \$300.00 scholarship, sponsored by the Ladies Auxiliary of the Chicago Retail Druggists' Association, is given annually to a deserving student for high scholastic achievement.

Lilly Achievement Award. Eli Lilly and Company sponsors an award of a gold medal which is given to a graduating senior for superior scholastic achievement, leadership, and professional attitude.

Merck Award. Merck and Company makes available to outstanding members of the graduating class copies of the Merck Index and the Merck Manual.

Rexall Award. The Rexall Drug Company sponsors an award consisting of a mortar and pestle trophy which is awarded to an outstanding member of the junior class.

Rho Chi Prize. Phi Chapter of Rho Chi, honorary pharmaceutical society, awards annually an embossed copy of the United States Dispensary as a prize to the sophomore student who has attained the highest scholastic average upon entering the third quarter of the sophomore year.

Samuel Shkolnik Jurisprudence Award. An award of \$100.00, donated in the name of Samuel Shkolnik by Humiston-Keeling Company, is given annually to the student earning the highest average in pharmaceutical jurisprudence.

Van Schaack Prize. By the will of Cornelius P. Van Schaack, the College of Pharmacy received in 1937 the sum of \$1,000.00 to be held in trust by the University. The annual income from this bequest is used for the purchase of a gold medal, known as the C. P. Van Schaack Award, which is presented to the senior student who has the highest scholastic average in chemistry upon entering the third quarter of the senior year.

Charles R. Walgreen, Jr. Scholarship Award. This award of \$300.00 is given annually to the junior student who has the highest scholastic average upon entering the third quarter of the junior year.

Women's Auxiliary of the Illinois Pharmaceutical Association Scholarship Award. This award of \$300.00 is given annually to the junior woman student who has the highest scholastic average upon entering the third quarter of the junior year.

LOAN FUNDS

Several loan funds have been established for the benefit of worthy students who have satisfactorily completed at least one year of work in the University and are in need of financial aid in order to finish their courses. Information concerning these funds and the regulations governing loans may be obtained from the office of the Dean of the College. The loans described here are for the exclusive use of students of pharmacy.

Ebert Loan Fund. In 1907, following the death of Mr. Albert E. Ebert who had taken an active part in the development of the College of Pharmacy, the Alumni Association of the College established a fund in memory of Mr. Ebert. Later contributions were made by the Women's Organization of the Chicago Retail Druggists' Association to establish a loan fund. In 1931 the funds were combined into one known as the Albert E. Ebert Loan Fund. The Class of 1932 also contributed to this fund. Loans are made available to deserving students.

Goldenrod Ice Cream Company Loan Fund. Established in 1943, through a gift from the Goldenrod Ice Cream Company of Chicago, this fund provides for loans to students.

Goldstine Emergency Loan Fund. This fund for emergency loans to students was established by the Board of Trustees in 1933. The name was changed in 1943 when the fund was increased by a gift from Mr. Harry Goldstine.

Student Council Emergency Loan Fund. A sum of money available for emergency loans to students in need of financial aid is on deposit with the Chicago Organizational Fund.

Sidney A. Roth Memorial Fund. The Alumni Chapter of the Delta Kappa Sigma Chapter of Rho Pi Phi fraternity has made available an amount equivalent to the tuition and fees for one quarter to students needing financial assistance. The loan is made upon the recommendation of the Dean of the College of Pharmacy.

ORGANIZATIONS

ALUMNI ASSOCIATION OF THE COLLEGE OF PHARMACY

President: MILTON S. PRIZANT '37, 6043 North Artesian, Chicago, Illinois

Vice-President: WILLIAM J. BICKETT '52, 2700 Sheridan Road, Zion, Illinois

Secretary: SAMUEL SHKOLNIK '25, 111 West Washington Street, Chicago, Illinois

Treasurer: GEORGE L. WEBSTER '22, 1000 Forest Avenue, Wilmette, Illinois

Trustees:

MILTON S. PRIZANT '37, 6043 North Artesian, Chicago, Illinois

WILLIAM J. BICKET '52, 2700 Sheridan Road, Zion, Illinois

SAMUEL SHKOLNIK '25, 111 West Washington Street, Chicago, Illinois

GEORGE L. WEBSTER '22, 1000 Forest Avenue, Wilmette, Illinois

GEORGE L. SCHARRINGHAUSEN '28, 110 Main Street, Park Ridge, Illinois

JACOB T. KEEFER '39, 10 North Pine Avenue, Mount Prospect, Illinois

HAROLD SCHMID '14, 10824 South Indiana Avenue, Chicago, Illinois

JULIUS M. THOMAS '23, 3318 Lake Shore Drive, Chicago, Illinois

F. MERLE HAUGHAWOUT '40, 320 North Main Street, Bloomington, Illinois

Representative (on General Alumni Board):

MEYER C. BALIN '25, 3745 West Eastwood Avenue, Chicago, Illinois

STUDENT CHAPTER OF THE AMERICAN PHARMACEUTICAL ASSOCIATION — ILLINOIS PHARMACEUTICAL ASSOCIATION

The Student Chapter of the American Pharmaceutical Association — Illinois Pharmaceutical Association is the only organization which offers professional membership to all students in the College of Pharmacy. The organization maintains an active professional program and cooperates with the national and state Associations. Approximately 70 per cent of the students enrolled in the College of Pharmacy are active members of the Association. Seniors in good standing in the Student Chapter at the time of their graduation are accorded full membership in the American Pharmaceutical Association and Illinois Pharmaceutical Association until January 1 of the succeeding year.

RHO CHI

Phi Chapter of Rho Chi, national honor society in Pharmacy, organized to promote the advancement of the pharmaceutical sciences, is located at the College of Pharmacy. Students who have completed 115 quarter hours of work of the professional curriculum with an average of at least 4.0 and in the highest 20 per cent of their class are eligible for membership.

OTHER PHARMACEUTICAL ASSOCIATIONS

The College of Pharmacy holds membership in the American Association of Colleges of Pharmacy. The object of the association is to promote the interests of pharmaceutical education, and all institutions holding membership must maintain certain minimum requirements for entrance and graduation. Through the influence of this association, high standards of education are maintained.

PLAN OF INSTRUCTION

Pharmacy is a health profession concerned with the selection, preservation, standardization, preparation, and distribution of drugs and medicinals. It is based on two groups of fundamental sciences, the physical and the biological. Advancements in these sciences have contributed so much to the health professions that it is imperative for the pharmacist to be thoroughly trained in the fundamental sciences as well as in the applied and professional subjects. Accordingly, ample time in the curriculum of the College of Pharmacy is devoted to the physical and biological sciences and other subjects necessary to the practice of pharmacy.

As there are several allied and related fields to which individuals with a pharmaceutical training are particularly adaptable, each student is permitted to elect specialized courses during his four years.

The College of Pharmacy offers the last four professional years of a five-year curriculum leading to the degree of Bachelor of Science in Pharmacy,

as summarized on pages 32 and 33. The courses included in the basic curriculum are required of all students. Elective courses for each year are determined through consultation with a faculty counselor.

SIGNIFICANCE OF GRADES OF THE COLLEGE OF PHARMACY

Grades given for work in the College of Pharmacy are as follows: A, excellent; B, good; C, fair; D, poor (but passing); E, failure. Numerical equivalents of these grades on the basis of which averages are made are as follows: each hour of A grade carries 5 grade points; each hour of B grade, 4 grade points; each hour of C grade, 3 grade points; each hour of D grade, 2 grade points; each hour of E grade, 1 grade point.

In addition to the above grades, the following symbols are used. The symbol W indicates withdrawal from a course with permission of the Dean. The grade of E may be given to students withdrawing from a course who were doing unsatisfactory work at the time of withdrawal. Withdrawal because of military service is subject to special regulations. If a student is absent from the final examination without excuse acceptable to the Dean, the symbol Ab is used and counts as a failure. If a student is absent from the final examination with excuse acceptable to the Dean, the symbol Ex is used. The mark of Ex entitles the student to an examination later without fee, but becomes a failure, unless removed at the first opportunity approved by the Dean. The symbol Dr indicates that the student was dropped for academic irregularity and counts as a failure.

In order to qualify for graduation, a student must have completed successfully a minimum of 189 quarter hours of the professional curriculum and earned a minimum of 567 grade points. A minimum grade-point average of 3.0 or C, including work taken elsewhere and accepted for advanced credit, is required for graduation. An average of not less than 3.0 must be attained in work done at the University of Illinois. Failures of required courses in the curriculum must be removed by repeating successfully those courses in which a grade of E is obtained. Where a course is repeated, both the original and subsequent grades are included in the average.

Probationary Status. A student who fails to achieve an over-all grade-point average of 3.0 at the end of any quarter is placed on probation. Probation is removed at the end of any quarter in which the grade-point average of that quarter and the cumulative grade-point average for work taken in the College of Pharmacy equals or exceeds 3.0. A student on probation may not be initiated into a fraternity or sorority or elected to office in a student organization during the period of probation and may be required to limit the number of hours attempted during the period of probation. Any student who consistently earns grades under C may, at the discretion of the

Committee on Student Status and Promotion, be denied promotion to the next higher class.

Refusal of Further Registration Because of Poor Scholarship. A student who fails to remove himself from probationary status during his next period of registration may be dropped for poor scholarship. A student who receives either unsatisfactory or failing grades in a substantial portion of the work for which he receives a grade at the end of a quarter may be dropped for poor scholarship. A student who receives failing grades in one-half or more of the work for which he receives a grade at the end of a quarter is dropped for poor scholarship. A student who is refused further registration because of poor scholarship may petition the Committee on Student Status and Promotion for readmission. Reconsideration of the case of a student dropped for poor scholarship does not guarantee readmission. Except for unusual circumstances, a student may be reinstated only once.

Promotion to the Next Higher Class. Any student who, at the end of the academic year, has completed substantially all of the normal program, and has a cumulative grade-point average of 3.0 or better, is promoted to the next higher class. A student who, at the end of the academic year, has a cumulative grade-point average of less than 3.0 may be promoted to the next higher class only with the approval of the Committee on Student Status and Promotion. If a student's cumulative grade-point average is substantially below 3.0, promotion to the next higher class may be withheld.

SUMMARY OF CURRICULUM IN PHARMACY

	FIRST YEAR											
	First Quarter			Second Quarter			Third Quarter			Total		
	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.	Cr.		
Chemistry 111, 112, 113.....	4	4	5	4	4	5	4	4	5	15		
Pharmacy 110, 112.....	1	0	0	3	3	4	..	..	..	4	
Pharmacy Administration 111, 113..	4	0	4	..	..	..	4	0	4	8	
Physical Education 101, 102, 103...	3	0	0	3	0	0	3	0	0	0		
Physics 111, 112, 113.....	3	3	4	3	3	4	3	3	4	12		
	15	7	13	13	10	13	14	7	13	39		
Mathematics 111* or Electives....	3 - 4			3 - 4			3 - 4			49-51		

* Required subject not in lieu of electives

	SECOND YEAR											
	First Quarter			Second Quarter			Third Quarter			Total		
	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.	Cr.		
Chemistry 121, 122, 123.....	3	3	4	2	8	4	4	4	5	13		
Pharmacy 121, 122, 123.....	3	3	4	3	3	4	3	3	4	12		
Pharmacy Administration 121.....	4	0	4	..	..	..	..	..	..	4	
Zoology 121, 122, 123.....	2	6	4	2	6	4	2	6	4	12		
	12	12	16	7	17	12	9	13	13	41		
Electives.....				3 - 4			3 - 4			47-49		

THIRD YEAR

	First Quarter			Second Quarter			Third Quarter			Total
	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.	Cr.
Chemistry 231, 342.....	2	6	4	4	0	4	..	..	..	8
Microbiology 233.....	..	..	..	..	..	..	3	6	5	5
Pharmacognosy 231, 232, 233.....	3	3	4	3	3	4	3	3	4	12
Pharmacy 231, 232, 237.....	3	3	4	3	3	4	1	3	2	10
Pharmacy 235.....	..	..	..	..	..	..	2	0	2	2
Physiology 231, 232.....	4	0	4	4	0	4	..	..	..	8
	12	12	16	14	6	16	9	12	13	45

Electives..... 3 - 4 48-49

FOURTH YEAR

	First Quarter			Second Quarter			Third Quarter			Total
	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.	Cr.
Pharmacology 241, 242, 243.....	3	4	4	3	4	4	3	4	4	12
Pharmacology 244.....	..	..	..	2	0	2	..	..	..	2
Pharmacy 241, 242, 243.....	3	3	4	3	3	4	3	3	4	12
Pharmacy Administration 243.....	..	..	..	..	..	..	4	0	4	4
Public Health 241.....	4	0	4	..	..	..	..	..	..	4
	10	7	12	8	7	10	10	7	12	34

Electives..... 6 - 8 3 - 4 3 - 4 46-50

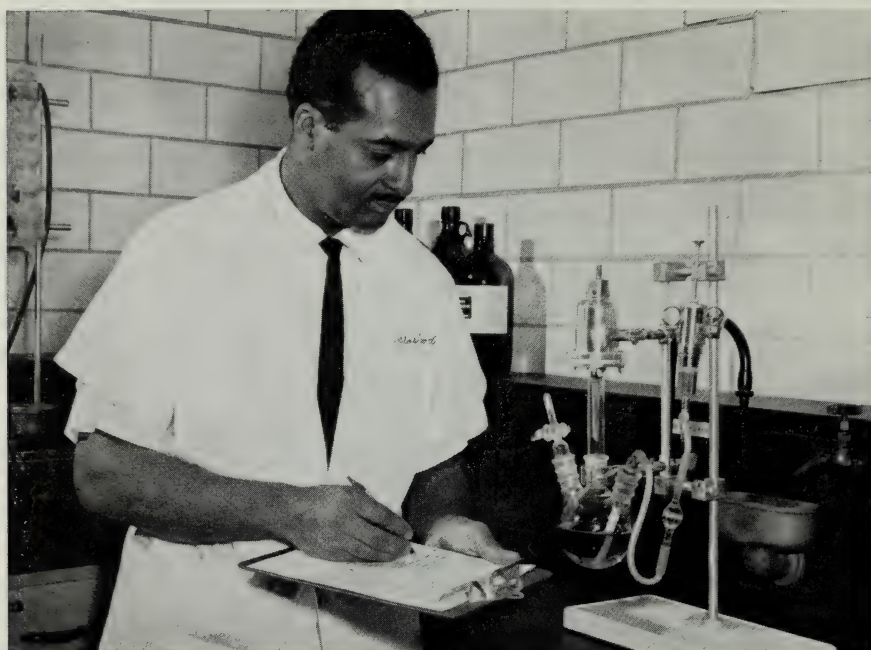
Basic curriculum 163 hours; 189 hours required for graduation.

ELECTIVES AVAILABLE TO BOTH UPPER AND LOWER CLASSMEN

	Didactic	Laboratory	Credit Hours
Chemistry 301.....	2	8	4
Chemistry 335.....	4	0	4
Chemistry 336.....	4	4	5
Chemistry 350.....	2	8	4
English 110.....	3	0	3
English 115.....	3	0	3
English 205.....	3	0	3
English 220.....	3	0	3
English 224.....	3	0	3
English 225.....	3	0	3
English 230.....	3	0	3
English 235.....	3	0	3
Mathematics 110.....	4	0	4
Mathematics 115.....	4	0	4
Mathematics 116.....	4	0	4
Pharmacy 295.....	1	0	1
Physics 315.....	3	0	3
Psychology 126.....	3	0	3
Psychology 130.....	3	0	3
Sociology 125.....	3	0	3
Zoology 305.....	3	3	4

ELECTIVES AVAILABLE ONLY TO UPPER CLASSMEN

Chemistry 245.....	..	..	(1-4)
Chemistry 343.....	2	6	4
Chemistry 345.....	4	0	4
Chemistry 346.....	2	8	4
Chemistry 349.....	2	6	4
Mathematics 360.....	4	0	4
Mathematics 362.....	4	0	4
Mathematics 365.....	4	0	4
Parasitology 341.....	4	3	4



PHARMACEUTICAL RESEARCH

	Didactic	Laboratory	Credit Hours
Pharmacognosy 245.....	..	..	(1-4)
Pharmacognosy 301.....	3	3	4
Pharmacognosy 302.....	3	3(6)	4(5)
Pharmacognosy 303.....	2	6(9)	4(5)
Pharmacognosy 306.....	2	3	3
Pharmacognosy 314.....	1	6	3
Pharmacognosy 316.....	3	0	3
Pharmacology 245.....	..	..	(1-4)
Pharmacology 250.....	3	0	3
Pharmacology 310.....	2	6	4
Pharmacy 245.....	..	..	(1-4)
Pharmacy 250.....	1	6	3
Pharmacy 255.....	2	4	3
Pharmacy 260.....	2	8	4
Pharmacy 265.....	2	4	3
Pharmacy 275.....	1	6	3
Pharmacy 280.....	2	0	3
Pharmacy 300.....	1	9	4
Pharmacy 305.....	3	0	3
Pharmacy 310.....	2	4	3
Pharmacy Administration 235.....	4	0	4
Pharmacy Administration 240.....	4	0	4
Pharmacy Administration 245.....	..	..	(1-4)
Pharmacy Administration 255.....	4	0	4
Physics 325.....	2	4	3
Zoology 215.....	3	3	4
Zoology 245.....	..	..	(1-4)
Zoology 295.....	1	0	1
Zoology 310.....	2	6	4

COURSES OF INSTRUCTION

The following list of subjects is arranged by departments. The description of each course includes a statement of the number of lectures, recitations, or laboratory periods each week (each period being fifty minutes unless otherwise specified). The number of didactic periods and laboratory hours are shown in the summary of the curriculum, which also shows the credit in quarter hours. In the description of each course the quarter during which it is given is indicated by a Roman numeral, "I" for the first quarter, "II" for the second quarter, and "III" for the third quarter, followed by an Arabic numeral in parentheses indicating the number of credit hours. For example, "I, (3)" means that the course is given in the first quarter for three hours of credit. The expression "I, II, or III" is used if the course may be taken in any quarter.

CHEMISTRY

- 111, 112, 113. Organic Chemistry.** This course provides a study of the nomenclature, occurrence, uses, physical properties, synthesis, and reactions of organic compounds. The treatment is based on the functional groups of the acyclic, alicyclic, aromatic, and heterocyclic compounds, and includes a consideration of polyfunctional compounds, fats, peptides, carbohydrates, and macromolecules. Concepts of stereoisomerism, resonance, reaction mechanisms, and organic theory are used to illustrate the course material. Three lectures, one recitation, and one four-hour laboratory period each week. I, (5), II, (5) and III, (5). These courses must be taken in sequence. Prerequisite: Inorganic chemistry, qualitative analysis, college algebra, and trigonometry.
- 121. Introduction to Physical Chemistry.** This introductory course outlines the scope of physical chemistry and its relationships and applications to other fields of science. It considers the physicochemical behavior of gases, liquids, and solutions, with special reference to biological phenomena. Physiological aspects of oxidation-reduction, osmotic pressure, electrolytic dissociation, and the properties of colloids are discussed. Three lectures or recitations and one three-hour laboratory period each week. I, (4). Prerequisite: Chemistry 113; Physics 111, 112, 113; Mathematics 111.
- 122. Quantitative Analysis.** The principles, theories, and techniques of volumetric analysis as related to acidimetry and alkalimetry. Oxidation-reduction, precipitation reactions, and spectrophotometry are discussed. Selected laboratory exercises illustrate the principles and theories involved in each type of reaction. Two lectures and two four-hour laboratory periods each week. II, (4). Prerequisite: Mathematics 111; inorganic chemistry and qualitative analysis.
- 123. Biological Chemistry.** General biochemistry presented at an introductory level considers the chemistry of living cells and tissues including the metabolic changes taking place in these labile systems. Replacement reactions,

energetics, enzymes, vitamins, and hormones are discussed. Four lectures and one four-hour laboratory period each week. III, (5). Prerequisite: Chemistry 113.

- 231. Drug Assaying.** Basic scientific principles are applied to the standardization and analysis of drugs and pharmaceutical products. Applications of the newer analytical techniques of chromatography, colorimetry, spectrophotometry, and nonaqueous titrations to the control of pharmaceutical products are presented. Two lectures and two three-hour laboratory periods each week. I, (4). Prerequisite: Chemistry 113, 122.
- 245. Undergraduate Research in Chemistry.** The student investigates, under the direction of one or more faculty members, a chemical problem of limited scope. The investigation may include experimentation and library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: A grade-point average of 3.5 and permission of the departmental faculty.
- 301. Systematic Identification of Organic Compounds.** The physical and chemical properties, classification, reactions, and methods of synthesis of typical derivatives are employed in the identification of organic compounds. Special conferences and a minimum of eight hours of laboratory work each week. (4). Prerequisite: Chemistry 113, 121.
- 335, 336. Physical Chemistry.** Atomic and molecular structure, chemical thermodynamics, phase equilibria, chemical equilibria, surface chemistry, electrochemistry, and chemical kinetics are discussed in this two-quarter course. Three class meetings in Chemistry 335 each week and three class meetings and one four-hour laboratory in Chemistry 336 each week. Chemistry 335, II, (4); Chemistry 336, III, (5). Prerequisite: Chemistry 113, 121; Physics 112, 113; Mathematics 115, 116, or concurrent registration in Mathematics 115 for Chemistry 335 and concurrent registration in Mathematics 116 for Chemistry 336.
- 342. Chemistry of Medicinals.** Modern synthetic drugs are studied with regard to their nomenclature, methods of synthesis, and relation to other drugs having similar therapeutic, physical, and chemical properties. Four lectures each week. II, (4). Prerequisite: Chemistry 113.
- 343. Chemical Toxicology.** The common sources, chemistry, methods of isolation, and identification of toxic agents commonly encountered as industrial hazards or as the cause of accidental or purposeful poisoning are discussed. Two lectures and two three-hour laboratory periods each week. III, (4). Prerequisite: Chemistry 113.
- 345. Chemistry of Natural Products.** The occurrence, origin, biological significance, nomenclature, physical and chemical properties, methods of isolation, and pharmaceutical uses of important natural substances are studied. Particular attention is given to the sugars, sugar alcohols, polyhydroxyacids, gums,

mucilages, pectins, glycosides, fats, waxes, steroids, hormones, alkaloids, vitamins, enzymes, essential oils, and resins. Four lectures each week. (4). Prerequisite: Chemistry 113, 123.

346. **Organic Chemistry.** This course is a continuation of the study of organic chemistry with practice in and emphasis on the application of general and special reactions to the synthesis of drugs and chemicals. Two lectures and two four-hour laboratory periods each week. (4). Prerequisite: Chemistry 113, 121.
349. **Pharmaceutical Assaying.** Chemical and physical methods of analyzing raw materials and dosage forms of medications are discussed. The principles of sampling and the methods of quantitatively separating active compounds from inactive diluent or vehicles are given special considerations. Two class meetings and two three-hour laboratory periods each week. (4). Prerequisite: Chemistry 231.
350. **Instrumental Analysis.** The principles, methods, and techniques of analytical chemistry using modern electrical and electronic instruments are studied. Two lectures and two four-hour laboratory periods each week. (4). Prerequisite: Chemistry 121, 122.

ENGLISH

110. **Introduction to Poetry and the Drama.** Selected dramas and various types of poetry are studied and considered as art forms. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric.
115. **Introduction to Prose Fiction.** The serious novel and short story are introduced, and representative examples in both categories are read and discussed. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric.
205. **Report Writing.** This course provides an opportunity to study the writing of reports based on research, field surveys, and other data. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric.
220. **Survey of English Literature since 1800.** The writings of some of the principal figures of British literature in the nineteenth and twentieth centuries are examined. Reading assignments include the works of such authors as Wordsworth, Byron, Carlyle, Tennyson, Browning, Huxley, Hardy, Thackeray, and Shaw. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric. English 115 is preferred but not required.
224. **Survey of American Literature from the Beginnings to the Civil War.** Examples of American writing from Colonial times to the Civil War are read and discussed. Reading assignments include representative literary works with selections from critical writing. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric. English 115 is preferred but not required.

- 225. Survey of American Literature from the Civil War to the Present.** Examples of American writing from the Civil War to the present time are discussed. Reading assignments include representative literary works with selections from significant critical writing. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric. English 115 is preferred but not required.
- 230. The American Novel.** A historical and critical survey of the development of American prose fiction is presented. It includes intensive reading of such major American authors as Cooper, Melville, James, Hemingway, Faulkner, and others. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric. English 115 is preferred but not required.
- 235. The Contemporary Novel.** The course provides critical survey of the chief British and American novelists from 1900 to the present time. A comprehensive reading of major authors to show significant trends in modern prose fiction is required. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric. English 115 is preferred but not required.

MATHEMATICS

- 110. Introduction to Computer Coding.** Basic terminology of digital computation, organization of computers, fundamentals of algorithmic solution of problems including iteration techniques, flow diagrams, and self modification of computer codes. Programming for the IBM 1620 is included. Applications to problems in the health sciences. Four class meetings each week. III, (4). Prerequisite: A college level mathematics course or permission of the instructor.
- 111. Calculus and Analytic Geometry, I.** Coordinate systems, straight lines, functions and graphs, theory of limits, derivatives and integrals of polynomials, applications of differentiation and integration are presented. This course is designed to provide background for required science courses. Four class meetings each week. I, II, or III, (4). Prerequisite: College algebra and trigonometry.
- 115. Calculus and Analytic Geometry, II.** Extreme values; derivatives and integrals of trigonometric, logarithmic, and exponential functions; second degree curves; integration of rational fractions; integration by parts; geometric and physical applications. This course is designed for students desirous of electing advanced chemistry and pharmacy courses. Four class meetings each week. II, (4). Prerequisite: Mathematics 111.
- 116. Calculus and Analytic Geometry, III.** Polar coordinates; vectors, parametric equations; introduction to infinite series; partial derivatives; double integrals and applications. This course is designed for students desirous of electing advanced chemistry and pharmacy courses. Four class meetings each week. III, (4). Prerequisite: Mathematics 115.

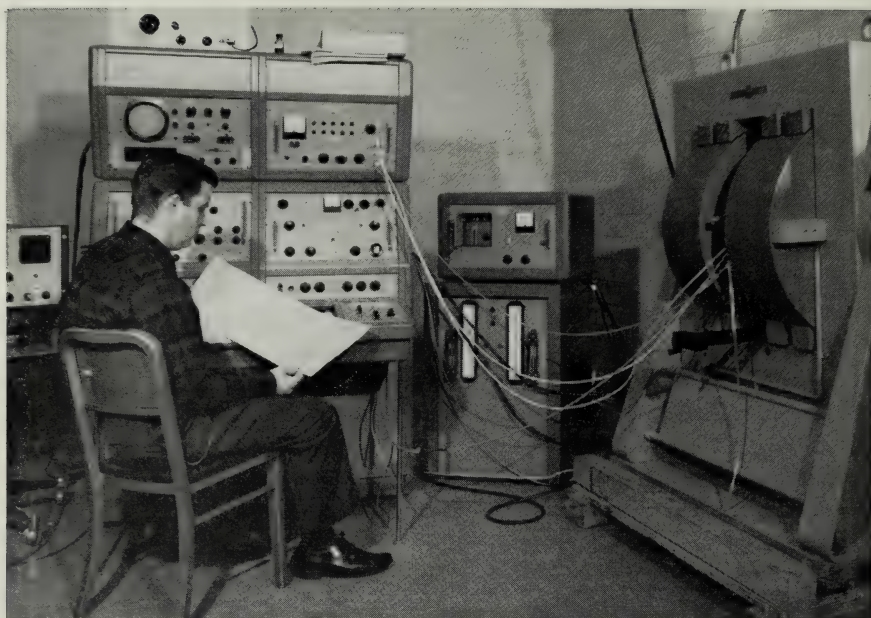
- 360. Differential Equations.** First-order equations, linear equations of first and second order, linear equations of higher order, reduction of order, power series. Partial differentiation and integration, equations of order one, linear equations. Applications to problems in the health sciences. Four class meetings each week. III, (4). Prerequisite: Mathematics 116.
- 362. Probability and Statistical Inference.** The theory of probability; averages; dispersion; least square, correlation; theory and techniques of sampling; testing of hypotheses. Applications to problems in the health sciences. Four class meetings each week. II, (4). Prerequisite: Mathematics 111.
- 365. Matrices, Vectors and Linear Transformations.** Matrix algebra, determinants, inverse of a matrix, rank and equivalence, linear equations and linear dependence, vector spaces and linear transformations. Applications to problems in the health sciences. Four class meetings each week. III, (4). Prerequisite: Mathematics 116.

MICROBIOLOGY

- 233. Microbiology.** The characteristics of bacteria, yeasts, and molds; their relation to disease; biologic products and antibiotics prepared from them. Action of antiseptics, disinfectants, and sterilizants are presented. The laboratory work includes the preparation of cultures and stained mounts, isolation and identification of organisms from mixed cultures, and antibiotics. Three lectures and three two-hour laboratory periods each week. III, (5). Prerequisite: Chemistry 123; Zoology 123.

PHARMACOGNOSY

- 231, 232, 233. Principles of Pharmacognosy.** The fundamental botany and pharmacognosy of the principal drugs of vegetable and animal origin are studied by means of lectures, laboratory work, and field trips. Related products of economic importance bearing upon the health of man and animal are considered. Three lectures and one three-hour laboratory period each week. I, (4); II, (4); III, (4). These courses must be taken in sequence. Prerequisite: Chemistry 123; Zoology 123.
- 245. Undergraduate Research in Pharmacognosy.** The student investigates, under the direction of one or more faculty members, a problem of limited scope in pharmacognosy. The investigation may include experimentation and library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: A grade-point average of 3.5 and permission of the departmental faculty.
- 301. Plant Anatomy.** Vascular plants are studied microscopically. Particular attention is given to the development and evaluation of the vascular systems in all parts of the plant. Three lectures and one three-hour laboratory period each week. II, (4). Prerequisite: Pharmacognosy 231.



NUCLEAR MAGNETIC RESONANCE SPECTROMETER

- 302. Plant Physiology.** Life processes in plants, with particular attention to the cell as the fundamental functional unit, are discussed. The basic principles of plant metabolism are emphasized in relation to essential elements, energy relationship, and other environmental factors. Three lectures or conferences and one three-hour laboratory period each week, I, (4); or three lectures and two three-hour laboratory periods each week, I, (5). Prerequisite: Pharmacognosy 231.
- 303. Systematic Pharmacognosy.** A taxonomic study of the flowering plants, with particular emphasis upon those of drug importance is provided. Relationship of the principal orders and families, rules of nomenclature, and systems of classification are considered. Laboratory work includes identification of species, together with the collection, identification, and preservation of drug plant specimens. Two lectures and two three-hour laboratory periods each week, (4); or two lectures and three three-hour laboratory periods each week, (5). Prerequisite: Pharmacognosy 233.
- 306. Pharmacognosy of the Allergens.** The identification and distribution of hay fever plants is discussed. The course includes an atmospheric survey and the study of wind-borne pollen and fungi spores. Two lectures and one three-hour laboratory period each week. III or summer, (3).
- 314. Histological Techniques.** The theoretical and practical development of the knowledge and skills essential to the preparation of biological materials for

microscopic study are considered. One lecture and two three-hour laboratory periods each week. I or II, (3). Prerequisite: Pharmacognosy 233 or permission of the departmental faculty.

- 316. Commercial Pharmacognosy.** The traffic in crude drugs and related products is examined with consideration of the basic principles governing the production, distribution, and consumption of these materials. Three lectures or conferences each week. I, (3). Prerequisite: Pharmacognosy 233.

PHARMACOLOGY

- 241, 242, 243. Pharmacology.** The factors underlying the applications of pharmacologic principles and agents to therapeutic problems are considered. Lectures and discussions are directed to an understanding of the mechanisms and sites of drug actions. Emphasis is placed upon the relationships of physiology, biochemistry, and pathology to the therapeutic applications of drug agents. Three lectures and one four-hour laboratory period each week. I, (4); II, (4); III, (4). These courses must be taken in sequence. Prerequisite: Physiology 232; Chemistry 123; Microbiology 233.

- 244. Emergency Aid.** The role of the community pharmacist with respect to the legal and ethical codes as they apply to emergencies arising in the practice of the profession are outlined. Emphasis is placed upon the description, prevention, and temporary relief measures of emergencies arising from accidents, minor afflictions, self-inflicted injuries, disasters, and national conflicts. Two lectures or conferences each week. II, (2). Prerequisite: Pharmacology 241.

- 245. Undergraduate Research in Pharmacology.** The student investigates, under the direction of one or more faculty members, a pharmacologic problem of limited scope. The investigation may include experimentation and library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: A grade-point average of 3.5 and permission of the departmental faculty.

- 250. Veterinary Pharmacology.** A course designed to acquaint the pharmacist with the application, mechanism of action, and dangers of drugs used in the areas of agriculture and veterinary medicine. Three lectures each week. III, (3). Prerequisite: Pharmacology 242. Pharmacology 250 is offered in alternate years.

- 310. Bioassay.** Official, industrial, and general bioassay procedures are studied with emphasis on their applicability. Their reliability is considered on a statistical basis. Laboratory demonstration periods emphasize the designing, setting-up, and analysis of representative bioassay preparations. Two lectures and two three-hour laboratory demonstration periods each week. II or III, (4). Prerequisite: Pharmacology 241 and permission of departmental faculty. Pharmacology 310 is offered in alternate years.



JUNIOR-SENIOR PHARMACY DISPENSING LABORATORY

PHARMACY

110. **Orientation to Pharmacy.** A series of lectures or discussions intended to introduce the student to the scope and opportunities in the field of pharmacy are presented. Opportunities in research, selling, manufacturing, and hospital pharmacy as well as those in retail practice are included. One class meeting each week. I or II. While successful completion of this course is required, credit toward graduation is not granted.
112. **General Pharmacy.** The nomenclature, mathematics, medical vocabulary, and general processes of pharmacy are presented. Three lectures and one three-hour laboratory period each week. II, (4).
121. **Inorganic Pharmacy.** This course concerns the inorganic compounds of pharmaceutical importance. The presentation is based on the arrangement of the elements in the periodic table. Emphasis is placed on the physical and chemical properties as well as the medicinal and pharmaceutical uses and applications. Three lectures and one three-hour laboratory period each week. I, (4). Prerequisite: Pharmacy 112.
122. **Elementary Physical Pharmacy.** The principles and laws of physical chemistry are applied to the preparation and study of dosage forms. Emphasis is placed on the homogeneous liquid dosage forms, i.e., syrups, elixirs, tinctures, etc. Two lectures, one recitation, and one three-hour laboratory period each week. II, (4). Prerequisite: Chemistry 121; Pharmacy 121.

- 123. Pharmaceutical Preparations, I.** The application of physical pharmacy to the study and preparation of colloidal and heterogeneous liquid dosage forms, i.e., emulsions, suspensions, etc. Three lectures or recitations and one three-hour laboratory period per week. III, (4). Prerequisite: Pharmacy 122.
- 231. Pharmaceutical Preparations, II.** The application of physical pharmacy to the study and preparation of semi-solid and solid dosage forms, i.e., ointments, suppositories, etc. Three lectures or recitations and one three-hour laboratory period per week. I, (4). Prerequisite: Pharmacy 123.
- 232. Pharmacy Technology.** The more complex drug products are discussed in regard to ingredients, formulation, and preparation. Raw materials are grouped according to their pharmaceutical properties and usage. Comparative discussion of the preparation of products by small scale mechanized and extemporaneous methods are presented in lectures and in the laboratory. Two lectures, one recitation, and one three-hour laboratory or demonstration period each week. II, (4). Prerequisite: Pharmacy 231.
- 235. Introduction to Hospital Pharmacy.** This course provides an introduction to the administrative and professional practice of pharmacy in hospitals and related health care facilities. Two lecture periods each week. III, (2). Prerequisite: Third-year standing.
- 237. Special Pharmaceutical Formulations.** Pharmaceutical dosage forms applicable to dentistry, animal, and allied health professions are discussed. Aerosols, sustained release medications, coloring and flavoring agents, and diagnostic aids are covered. One lecture and one three-hour laboratory period each week. III, (2). Prerequisite: Pharmacy 232.
- 241, 242, 243. Dispensing.** Drug product information, the technics necessary for the extemporaneous compounding of prescriptions, and the methods for dispensing preformed medicinal products are presented. Laboratory work provides practical experience in the filling of currently prescribed medications. Three lectures and one three-hour laboratory period each week. I, (4); II, (4); III, (4). These courses must be taken in sequence. Prerequisite: Pharmacy 237.
- 245. Undergraduate Research in Pharmacy.** The student investigates, under the direction of one or more faculty members, a pharmaceutical problem of limited scope. The investigation may include experimentation and library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: Three years of college with a grade-point average of 3.5 and permission of the departmental faculty.
- 250. Hospital Pharmacy Clinic.** This course provides discussions and experience in hospital pharmacy administrative and professional practices. Two conference periods and three hours of practice in hospital pharmacy each week. I, II, III, (3). Prerequisite: Pharmacy 235 (may be taken concurrently).



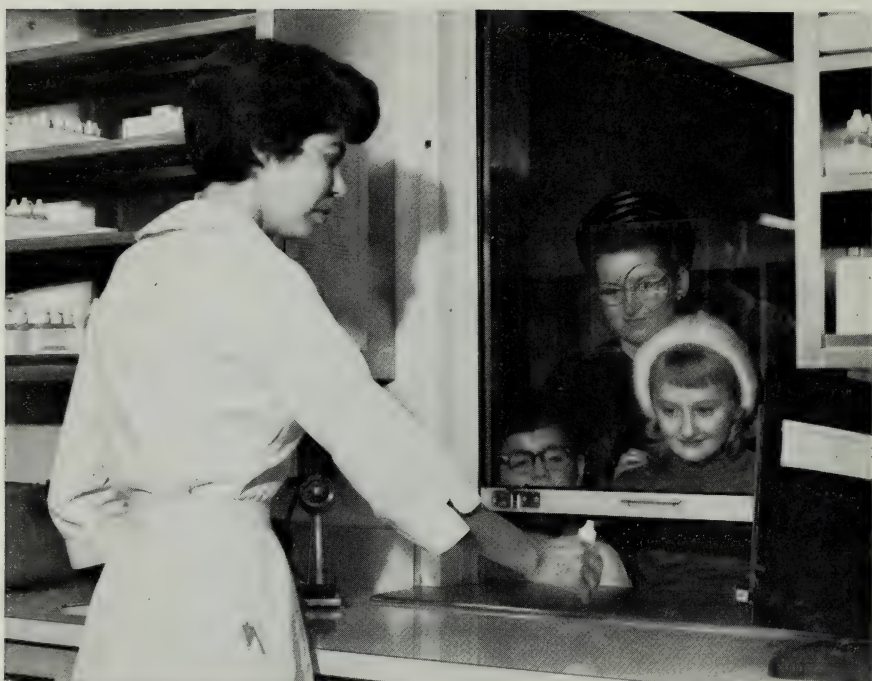
MANUFACTURING PHARMACY LABORATORIES

255. **Manufacturing Pharmacy.** An introduction to the development, production, quality control, and production control of pharmaceutical products. The laboratory work includes small-scale methods for the preparation of drug and cosmetic products involved in the manufacturing requirements of professional and hospital pharmacies. Two lectures and one four-hour laboratory period each week. I and II, (3). Prerequisite: Pharmacy 232.
260. **Introduction to Industrial Pharmacy.** Principles of selection of ingredients, processes, equipment, facilities, stability tests, containers, etc. In-process quality control, analytical control, statistical quality control, production planning, governmental regulations, structure of pharmaceutical companies. Problems involved in both pilot plant and large-scale production are considered. Emphasis is placed on tablets and other nonsterile products. Two lectures and two four-hour laboratory periods each week. II or III, (4). Prerequisite: Pharmacy 255.
265. **Sterile Product Technology.** Formulation, preparation, and evaluation of pharmaceutical products with particular reference to sterile medicinals and to special projects. Antiseptics, disinfectants, fungicides, preservatives, chemical, and physical sterilization. Two lectures and one four-hour laboratory period each week. III, (3). Prerequisite: Pharmacy 255.

- 275. Cosmetics.** The composition, formulation, and manufacture of selected types of cosmetics are considered. Problems of perfuming, coloring, packaging, and preservation are discussed. Two lectures and one three-hour laboratory period each week. I, (3). Prerequisite: Fourth-year standing.
- 280. History of Pharmacy.** The history of the profession of pharmacy is studied. Library research on pharmaceutical subjects is required. Two class meetings each week. I, II, or III, (3). Prerequisite: Third-year or fourth-year standing and permission of the departmental faculty.
- 295. Seminar in Pharmacy.** The seminar is designed to provide the student with experience in the oral and written presentation of topics of current interest to the profession of pharmacy. One class meeting each week. I, II, III, (1). May be elected for a total of not more than three credit hours and may be taken only once during any academic year. Open to sophomores, juniors, and seniors.
- 300. Hospital Pharmacy.** Study and practice of the administrative and operational aspects of hospital pharmacies. One lecture and nine hours practice each week. I, II, or III, (4). Prerequisite: Fourth-year standing.
- 305. Physical Pharmacy.** Physicochemical principles and laws are applied to the study of pharmaceutical dosage forms. Special emphasis is placed on research reports in the current pharmaceutical literature. Three lectures each week. I, (3). Prerequisite: Pharmacy 231; Chemistry 121 or equivalent.
- 310. Pharmaceutical Manufacturing Unit Operations.** The study of the general theory of the unit operations and the dosage form manufacturing processes in which these operations are used. Two lectures and one four-hour laboratory period each week. I, II, or III, (3). Prerequisite: Permission of departmental faculty.

PHARMACY ADMINISTRATION

- 111. Principles of Accounting.** Fundamentals of accounting practice are discussed and applied to retail pharmacy. The discussions include methods applicable to stores operating as individual proprietorships or as partnerships. Four class meetings each week. I, (4).
- 113. Elements of Economics.** This course provides a general survey of the operation of the economic system with reference to the business firm, the determination of price and output, the level of national income and the general price level, the monetary and banking system, government finance, competing economic ideologies, and the economics of health. Four class meetings each week. III, (4).
- 121. Principles of Marketing.** The functions, commodities, and middlemen involved in the marketing of goods and services are discussed. Attention is given to the marketing policies and problems involved in the operation of



DISPENSING PHARMACY, ILLINOIS EYE AND EAR INFIRMARY

- institutions engaged in producing and distributing pharmaceutical products. Four class meetings each week. I, (4). Prerequisite: Pharmacy Administration 111, 113.
- 235. Pharmaceutical Promotion and Selling Methods.** The fundamentals and technic of promoting and selling pharmaceutical products are examined. Consideration is given to promotional methods and personal selling in marketing activities of manufacturers, wholesalers, and retailers. Four class meetings each week. II, (4). Prerequisite: Pharmacy Administration 121.
- 240. Retail Pharmacy Management.** The operational problems of the retail pharmacy from the viewpoint of those responsible for management decisions are considered. Topics discussed include store establishment and organization; buying, pricing, and selling methods; merchandise planning; expense control; personnel selection and management; and financial analysis. Four class meetings each week. III, (4). Prerequisite: Pharmacy Administration 121.
- 243. Pharmacy Law.** The laws and regulations relating to the practice of pharmacy and the principles of common law bearing upon the work and responsibilities of the pharmacist are presented. Four lectures or recitations each week. III, (4). Prerequisite: Fourth-year standing.

- 245. Undergraduate Research in Pharmacy Administration.** The student investigates, under the direction of one or more faculty members, a problem of limited scope in this field. The investigation may require library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: A grade-point average of 3.5 and permission of the departmental faculty.
- 255. Principles of Business Law.** The principles of business law covering the subjects of contracts, sales, negotiable instruments, agency and business organizations are discussed. Four lectures or recitations each week. II, (4). Prerequisite: Pharmacy Administration 111, 113.

PHYSICAL EDUCATION

- 101, 102, 103. Physical Education.** The program is designed to develop physical fitness and skills in various recreational activities. Students scoring low on a motor fitness test are assigned to a developmental class. I, II, and III, (1). Credit for these courses is required of all first-year students in the College of Pharmacy. Credit may not be used for graduation.

PHYSICS

- 111, 112, 113. General Physics.** This course presents a study of the fundamental concepts and laws of physics and is designed to give a thorough presentation of the basic principles of classical physics as well as of the more recent developments. Attempts are made to apply the theoretical matter to practical problems. Two lectures, one recitation, and one three-hour laboratory period each week. I, (4); II, (4); III, (4). Prerequisite: College algebra and plane trigonometry. Physics 111 is a prerequisite to either Physics 112 or 113.
- 315. Modern Physics.** Basic tenets of relativity and quantum theories are presented. Topics discussed include elementary particles as well as atomic and nuclear structure. The biological and chemical implications of physics are stressed. Three lectures each week. (3). Prerequisite: Physics 113; Mathematics 111.
- 325. Radioactive Isotopes.** The properties and methods of the detections of radiations are discussed. The use of tracers in radiobiology, medicine, and chemistry, including the applications to therapy and health physics, are included. Methods of assaying and dispensing radioactive pharmaceuticals are emphasized. Two lectures and one four-hour laboratory period each week. (3). Prerequisite: Physics 113; Pharmacy 122.

PHYSIOLOGY

- 231. Human Physiology.** The physiology of blood, heart and circulation, respiration, gastrointestinal tract and liver, kidney, skin, and water balance is discussed. Three lectures and one one-hour demonstration period each week. I, (4). Prerequisite: Zoology 123; Chemistry 123.



PHARMACY STUDENTS ATTEND GRAND ROUNDS

- 232. Human Physiology.** The physiology of endocrines, heat regulation, nutrition and metabolism, muscle and nerve, central and autonomic nervous systems, and senses is discussed. Three lectures and one one-hour demonstration period each week. II, (4). Prerequisite: Physiology 232.

PSYCHOLOGY

- 126. Introductory Psychology.** Introductory analysis and description of human behavior. The course systematically considers biological and social aspects of behavior, growth and development, motivation, emotion and adjustment, personality and its appraisal, learning and perception. Three lectures or recitations each week. I, II, or III, (3).
- 130. Applied Psychology.** This course is concerned with the application of the principles of psychology to industry, business, and emotional adjustments. The areas considered include industrial efficiency, advertising techniques, employee and executive selection, detection and treatment of criminals and delinquents, techniques of diagnosis, and principles of personal adjustment. Three class meetings each week. I, II, or III, (3). Prerequisite: Psychology 126.

PUBLIC HEALTH

- 241. Public Health.** The course emphasizes the history and development of public health, epidemiology, diseases transmitted by contact and by arthropods,

airborne infection, nutrition, zoonoses, occupational health, environmental health — waste disposal, air pollution, radiation, and housing, maternal and child health, heredity and disease, diseases of personal adjustments and chronic diseases, socioeconomic problems associated with medical care, and geriatrics. Four lectures each week. I, (4). Prerequisite: Microbiology 233.

SOCIOLOGY

- 125. Introductory Sociology.** This course serves as an introduction to the basic structure and the principal forces which influence human society. The fundamental aspects of social organization, culture, socialization and personality, social interaction, collective behavior, and social change are considered. Three lectures or recitations each week. I, II, or III, (3).

ZOOLOGY

- 121. General Zoology.** This course introduces the student to the basic biologic principles of cytology, metabolism, embryology, anatomy, genetics, and evolution as illustrated by the major animal phyla. Two lectures and two three-hour laboratory periods each week. I, (4).
- 122. Mammalian Zoology.** The structure of mammals as correlated with function is studied. The fundamentals of mammalian embryology, evolution, adaptation, distribution, and classification are also presented. Two lectures and two three-hour laboratory periods each week. II, (4). Prerequisite: Zoology 121.
- 123. Mammalian Histology.** A study of the fundamental microscopic anatomy of tissues, organs, and organ systems. Correlation between structure and function is emphasized. Two lectures and two three-hour laboratory periods each week. III, (4). Prerequisite: Zoology 122.
- 205. Invertebrate Zoology.** This course stresses the morphology, physiology, life cycles, and ecology of free-living invertebrates. It includes laboratory and field work. Three lectures and one three-hour laboratory period each week. II or III, (4). Prerequisite: Zoology 121.
- 215. General Entomology.** This introductory course stresses the recognition, life histories, morphology, physiology, and distribution of insects and related forms. It provides a background for an understanding of control by the use of insecticides and other means. Three lectures and one three-hour laboratory period each week. III, (4). Prerequisite: Zoology 121.
- 245. Undergraduate Research in Zoology.** The student investigates, under the direction of one or more faculty members, a zoological problem of limited scope. The investigation may include experimentation and library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: A grade-point average of 3.5 and permission of the departmental faculty.

295. **Seminar in Biology.** The student is required to present a paper resulting from a survey of the literature dealing with a specific topic in biology. I, II, and III, (1 to 3). May be elected for one hour credit in each of three quarters. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.
310. **Genetics.** This course considers the fundamental principles of biological inheritance and the application of these in the study of plant and animal life. Two lectures and two three-hour laboratory periods each week. I, (4). May be elected in the fourth year only. Prerequisite: Zoology 123.
341. **Parasitology.** The vertebrates and invertebrates responsible for, or involved in, the transmission of diseases of man and domestic animals are studied. The epidemiology of viral, bacterial, protozoan, and helminthic diseases is stressed, with particular attention given to the various patterns of survival and spread of the parasites and their entry and exit from the host. The Protozoa, Helminths, and Arthropods are used to illustrate the biology of host-parasite and other interspecific biological relationships. Venomous arthropods and reptiles are also considered to complete the study of animals injurious to human health. Four lectures and one three-hour laboratory period each week. I, (4). Prerequisite: Microbiology 233.

(See Graduate College catalog for courses offered to graduate students.)

FACULTY OF THE COLLEGE OF PHARMACY AND HEADS OF COOPERATING DEPARTMENTS

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 BARRETT, EDWARD W., LL.B., Lecturer in Pharmacy Administration
 BAUER, LUDWIG, Ph.D., Professor of Chemistry
 BEJNAROWICZ, ELWINA A., M.S., Instructor in Pharmacognosy
 BELL, CHARLES L., Ph.D., Associate Professor of Chemistry
 BLAKE, MARTIN I., Ph.D., Professor of Pharmacy and Head of the Department
 BLOMQUIST, CONRAD A., Ph.D., Associate Professor of Zoology and Assistant Dean of the College
 CAPPS, JOAN, M.A., Instructor in Mathematics
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 CRANE, FRANK A., Ph.D., Associate Professor of Pharmacognosy
 DANIELS, RALPH, Ph.D., Professor of Chemistry
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 DE LA TORRE, LUIS, Ph.D., Associate Professor of Zoology
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 GDALMAN, LOUIS, B.S., Clinical Instructor in Pharmacy
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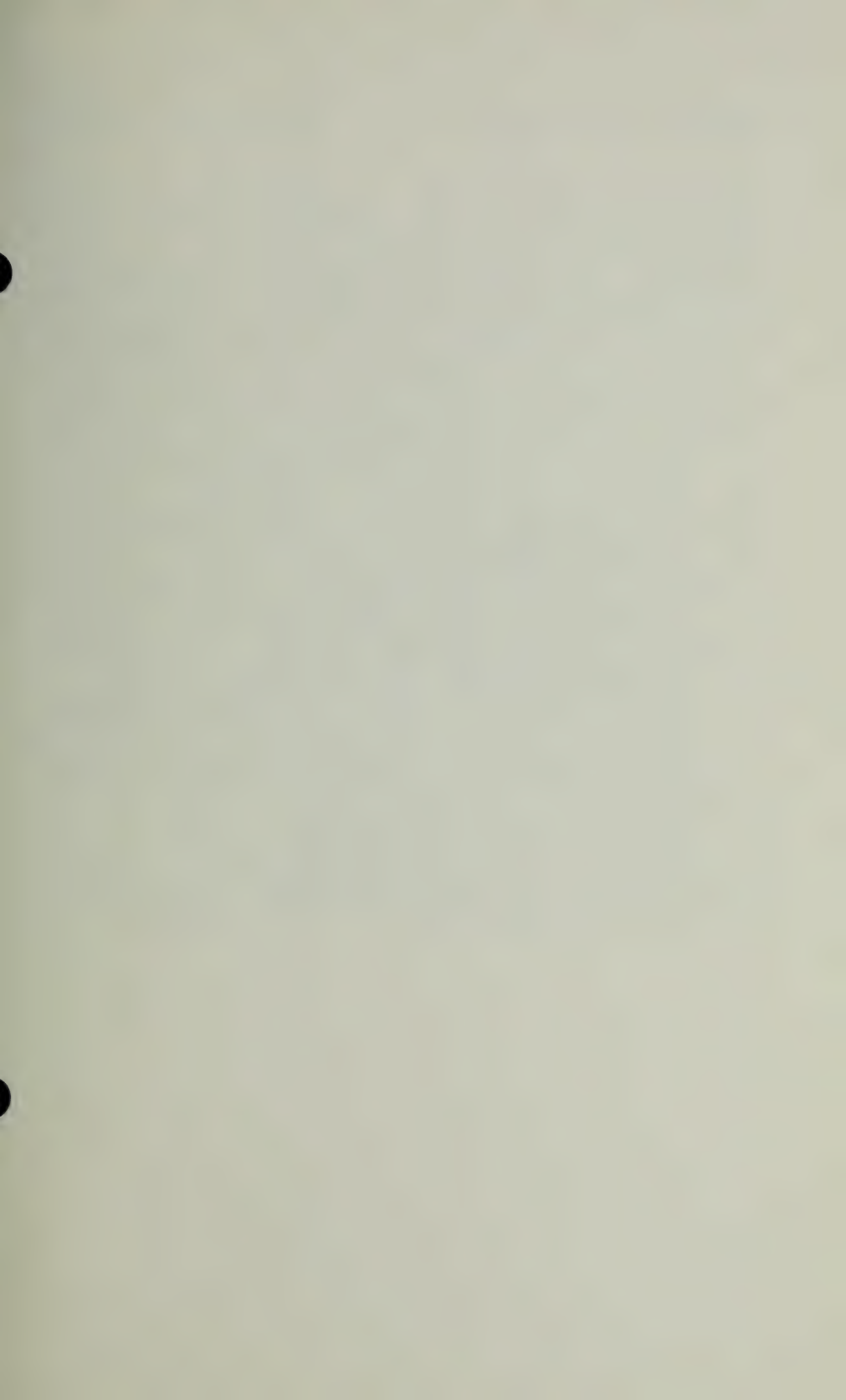
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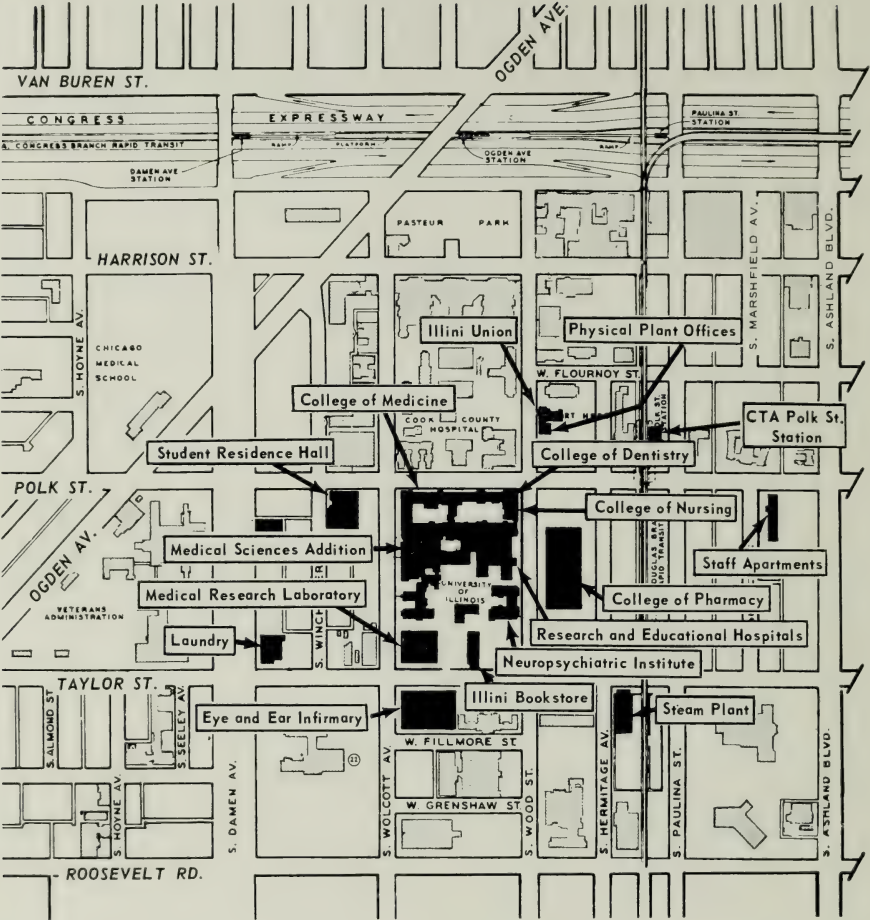
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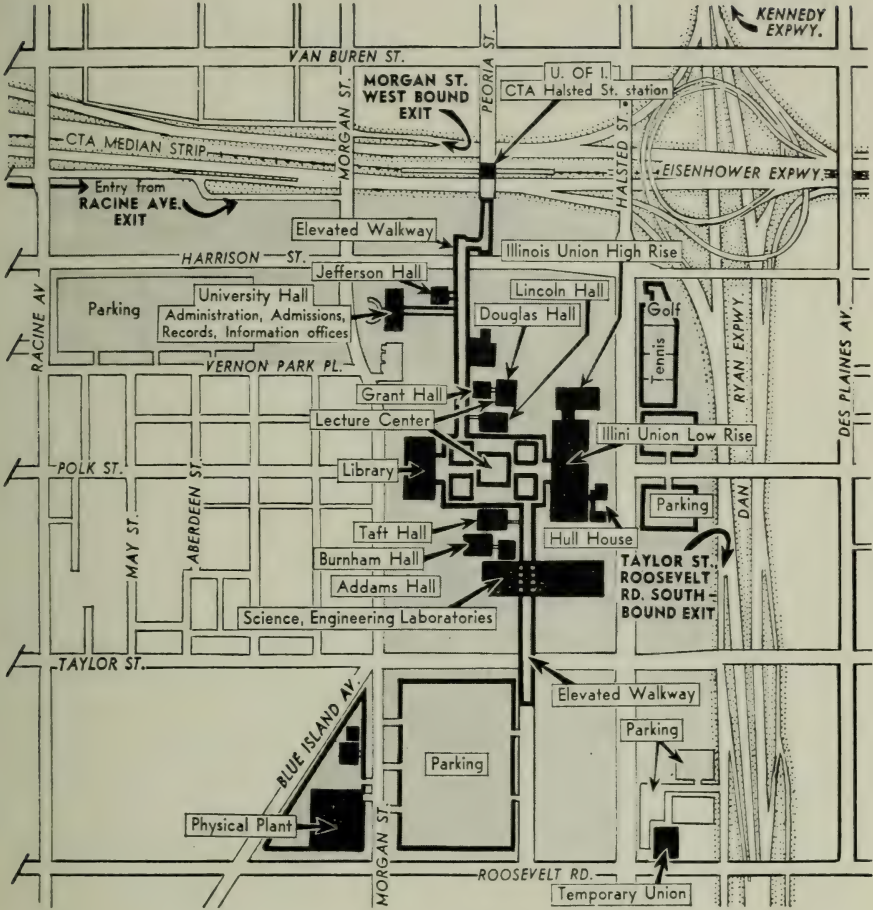
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MEDICAL CENTER CAMPUS



CHICAGO CIRCLE CAMPUS



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CALENDAR

1968 — FALL QUARTER

Registration and orientation.....	September 23-27
Instruction begins	Monday, September 30
Senate meets.....	Wednesday, October 9
Thanksgiving (holiday).....	Thursday-Friday, November 28-29
Senate meets.....	Wednesday, December 11
Examination period.....	December 9-13
Quarter ends.....	Saturday, December 14

1969 — WINTER QUARTER

Instruction begins.....	Monday, January 6
Senate meets.....	Wednesday, February 12
Examination period.....	March 17-21
Quarter ends.....	Saturday, March 22

1969 — SPRING QUARTER

Instruction begins.....	Monday, March 31
Senate meets.....	Wednesday, April 9
Memorial Day (holiday).....	Friday, May 30
Senate meets.....	Wednesday, June 4
Examination period	June 9-13
Commencement.....	Thursday, June 12
Quarter ends.....	Saturday, June 14

1969 — SUMMER QUARTER

Registration	June 16-20
Instruction begins.....	Monday, June 23
Independence Day (holiday).....	Friday, July 4
Labor Day (holiday).....	Monday, September 1
Examination period	September 2-5
Quarter ends.....	Saturday, September 6

1969 — FALL QUARTER

Registration and orientation.....	Tuesday-Friday, September 23-26
Instruction begins	Monday, September 29
Senate meets.....	Wednesday, October 8
Thanksgiving (classes dismissed).....	Thursday-Friday, November 27-28
Senate meets.....	Wednesday, December 10
Examination period.....	Monday-Friday, December 8-12
Quarter ends.....	Saturday, December 13

1970 — WINTER QUARTER

Instruction begins.....	Monday, January 5
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Senate meets.....Wednesday, February 11
Examination period.....Monday-Friday, March 16-20
Quarter ends.....Saturday, March 21

1970 — SPRING QUARTER

Instruction begins.....Monday, March 30
Senate meets.....Wednesday, April 8
Memorial Day (classes dismissed).....Friday-Saturday, May 29-30
Senate meets.....Wednesday, June 3
Examination period.....Monday-Friday, June 8-12
Commencement.....Friday, June 12
Quarter ends.....Saturday, June 13

1970 — SUMMER QUARTER

Registration.....Monday-Friday, June 15-19
Instruction begins.....Monday, June 22
Independence Day (classes dismissed).....Friday-Saturday, July 3-4
Examination period.....Monday-Friday, August 31-September 4
Quarter ends.....Saturday, September 5

1970 — FALL QUARTER

Registration and orientation.....Tuesday-Friday, September 22-25
Instruction begins.....Monday, September 28
Thanksgiving (classes dismissed).....Thursday-Friday, November 26-27
Examination period.....Monday-Friday, December 7-11
Quarter ends.....Saturday, December 12

1971 — WINTER QUARTER

Instruction begins.....Monday, January 4
Examination period.....Monday-Friday, March 15-19
Quarter ends.....Saturday, March 20

1971 — SPRING QUARTER

Instruction begins.....Monday, March 29
Memorial Day (classes dismissed).....Monday, May 31
Examination period.....Monday-Friday, June 7-11
Commencement.....Friday, June 11
Quarter ends.....Saturday, June 12

1971 — SUMMER QUARTER

Registration.....Monday-Friday, June 14-18
Instruction begins.....Monday, June 21
Independence Day (classes dismissed).....Monday, July 5
Examination period.....Monday-Friday, August 30-September 3
Quarter ends.....Saturday, September 4



PHARMACY COLLEGE BUILDING, NORTH AND SOUTH WINGS, 1952-1954

PHARMACY COLLEGE BUILDING, EAST WING, 1966-1968



COLLEGE OF PHARMACY

HISTORY, LOCATION, AND ADMINISTRATION

HISTORY

The University of Illinois was chartered in 1867 upon the foundation laid by the federal government in 1862 in an act to provide for the "liberal and practical education of the industrial classes in the several pursuits and professions of life." This was the Morrill Land Grant College Act passed by the Congress and signed by President Abraham Lincoln which, in the case of the University of Illinois, granted script for 480,000 acres of land from the sale of which funds for the creation and operation of the University were derived. A gift of approximately one thousand acres of land in Champaign County and of one hundred thousand dollars in county bonds caused the legislature to locate the University of Illinois in the "suburbs of Urbana, adjoining Champaign."

The University opened on March 2, 1868, as the Illinois Industrial University. Its name was changed to the University of Illinois in 1885. An appropriate centennial program was planned to commemorate the establishment of the University during the period between February 28, 1967, and March 2, 1968.

From its modest beginnings the University has steadily grown to its present distinguished position among the great universities of the United States and the world. The original campus and general administrative offices are located in Urbana-Champaign, 128 miles south of Chicago. Two major campuses are located in Chicago's near west side less than one mile apart.

Located at Urbana-Champaign are the Colleges of Agriculture, Commerce and Business Administration, Communications, Education, Engineering, Fine and Applied Arts, Law, Liberal Arts and Sciences, Physical Education, Veterinary Medicine, and the Institute of Aviation. Advanced work is offered by the Graduate College, the Institute of Labor and Industrial relations, the Jane Addams Graduate School of Social Work, and the Graduate School of Library Science. The Division of University Extension and numerous bureaus, institutes, and schools are on this campus.

Located in the midst of one of the world's largest medical centers is the campus of the University of Illinois at the Medical Center. This campus consists of the Colleges of Dentistry, Medicine, Nursing, and Pharmacy. The

Research and Educational Hospitals and numerous other specialized laboratories are located here and are used in support of the various educational activities. Degree programs are also offered in Occupational Therapy, Medical Art, Medical Technology, Medical Dietetics, and Medical Record Administration. More graduate courses and degree programs are offered by the Graduate College at the Medical Center than are found on any other campus of its type.

The Library of Medical Sciences is one of the largest and most extensive health sciences libraries in the United States.

Integral parts of the University of Illinois at the Medical Center campus are the Division of Services for Crippled Children, the Medical Research Laboratory, the Institute of Tuberculosis Research, and the Research Resources Laboratory.

The newest campus is the Chicago Circle facility, representing the latest concepts in educational facilities and located approximately a mile east of the Medical Center. Degree granting curricula are offered by the Colleges of Liberal Arts and Sciences, Business Administration, Education, Engineering, Art and Architecture, and the Division of Physical Education. Graduate curricula in many specialties are available.

The College of Pharmacy was originally an independent proprietary institution before becoming affiliated with the University of Illinois, having been organized as the Chicago College of Pharmacy on September 5, 1859. It was established eight years before the University itself was incorporated and was the fifth institution of its kind in the United States. Activities were suspended during the Civil War, and the College was not reopened until 1870. When its property was destroyed by the Chicago fire of 1871, the pharmacists of the world promptly came to the rescue, those of Great Britain in particular. They enabled the College to reopen again in 1872, with new equipment, including a library, much better than before. In 1896, it became the School of Pharmacy of the University of Illinois, and in 1932 its name was changed to the College of Pharmacy when the curriculum leading to the degree of Bachelor of Science was announced. In 1939-1940 the College of Pharmacy was moved to quarters in the Dentistry-Medicine-Pharmacy Building at 808 South Wood Street, from 715 South Wood Street.

Teaching and research facilities of the College were greatly expanded by the completion and occupancy of a new classroom and laboratory building prior to the opening of the fall quarter of 1954. The new six-story College of Pharmacy Building at 833 South Wood Street now provides administrative and general offices for the Medical Center campus and the College of Phar-

macy, lecture halls, classrooms, manufacturing, research, teaching, and dispensing laboratories, and storage space for both teaching and research materials. The curriculum consists of five years of academic training, the first of which and, under specified conditions, the second of which may be taken in any accredited junior college, college, or university, followed by three or four years of professional instruction at the Chicago campus. The College of Pharmacy maintains a program of graduate teaching which enables students to earn advanced degrees in chemistry, pharmacy, and pharmacognosy. It also has established refresher courses which enable the University to render statewide services to the 4,200 community pharmacies and the 9,000 pharmacists of the state.

LOCATION

The campus of the University of Illinois at the Medical Center, which is located about three miles from the Loop, or main business district of the city, can be reached conveniently by elevated train, bus, or automobile. The work of the College of Pharmacy is centralized in the East Unit of the Dentistry-Medicine-Pharmacy Building at 833 South Wood Street. The work of the Colleges of Dentistry and Medicine, the Graduate College, and the College of Nursing is centralized in the Dentistry-Medicine-Pharmacy Building which faces on Polk, Wood, and Wolcott Streets.

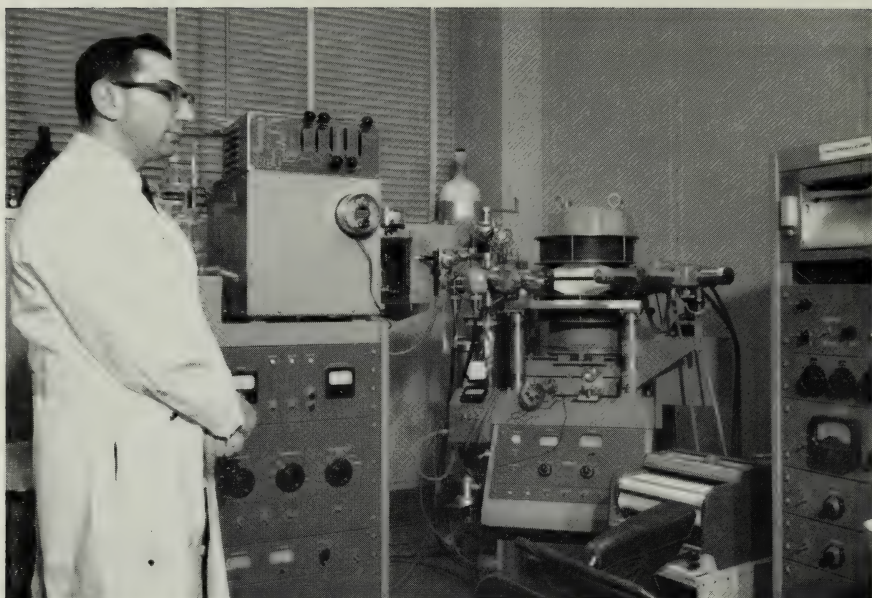
The University of Illinois Research and Educational Hospitals located at 840 South Wood Street and other affiliated hospitals provide excellent facilities for the teaching of certain aspects of pharmacy to both undergraduate and graduate students.

The Drug Plant Experiment Station, located at Downers Grove, Illinois, provides a unique opportunity for the development of drug plant research and the training of graduate students who are majoring in the field of pharmacognosy. The facilities of the Station are augmented by the very extensive plant culture programs of the neighboring Morton Arboretum.

ADMINISTRATION

Under the laws of the state of Illinois, the Board of Trustees of the University of Illinois is composed of eleven members, including the Governor and the Superintendent of Public Instruction who serve ex-officio and nine members elected by the people of the state for terms of six years.

Under the University Statutes adopted by the Board of Trustees, the affairs of the University are administered by the President, the Executive Vice-President and Provost, the Chancellor at the Medical Center, the Chancellor at Chicago Circle, the deans and directors of the colleges and schools, and other administrative officers. The Medical Center campus consists of the



MASS SPECTROPHOTOMETER FOR GRADUATE RESEARCH

College of Dentistry, the College of Medicine, the College of Pharmacy, and the College of Nursing, each having its own dean, and all being under the general supervision of the Chancellor at the Medical Center.

Graduate work at the University of Illinois at the Medical Center is conducted by the Graduate College under the supervision of a Dean. The present work of the Graduate College is described in detail in a separate announcement.

A senate is constituted at each campus of the University and consists of the full professors, the deans of colleges, the directors of schools and institutes, the heads and chairmen of departments, and elected members from each faculty. Any faculty member elected to a senate committee is a member of the senate during his committee membership.

Members of the faculty in each college cooperate with those in other colleges of the University, both in instruction and in research. Staff members of the basic science departments in the College of Medicine also give instruction for students of dentistry, pharmacy, nursing, and allied health sciences.

ACCREDITATION

The College of Pharmacy of the University of Illinois is fully accredited by the American Council on Pharmaceutical Education. The Council is the

only accrediting agency for the profession of pharmacy, and is an affiliate of the American Council on Education.

LIBRARY

The library's collection is a comprehensive one of standard and modern works on dental, medical, nursing, pharmaceutical, and allied scientific subjects, with some 2,300 current periodicals and more than 182,584 volumes on its shelves. Its facilities are available for reference use, and most materials may be withdrawn for use outside the reading rooms.

RECREATIONAL FACILITIES

The social and recreational center for all students, alumni, and faculty members is the new Illini Union complex, 828 South Wolcott Avenue. Its facilities include a music lounge, art lounge, bowling lanes, barber shop, bookstore, food service, meeting rooms, activities offices, etc. Intramural sports under a trained director are encouraged, and facilities and equipment are available for softball, horseshoes, tennis, archery, wrestling, fencing, badminton, basketball, and ping-pong. Through special arrangements at the Chicago Circle campus, swimming is available to students.

ADMISSION REQUIREMENTS

The curriculum in pharmacy comprises five academic years of college work leading to the degree of Bachelor of Science in Pharmacy. This is a minimum curriculum adopted by all but two accredited colleges of pharmacy in the United States. The two exceptions now require six years of collegiate work leading to a degree of Doctor of Pharmacy.

A person seeking admission to the University of Illinois College of Pharmacy must have been graduated from an accredited secondary school, or have equivalent preparation, and have satisfactorily completed not less than thirty semester hours or equivalent of academic work, exclusive of hygiene, physical education, and military training in an accredited college, junior college, or university.

To be considered for admission the applicant should submit to the Director of Admissions and Records, 1853 West Polk Street, Chicago, Illinois 60612, the following documents: (1) completed application forms, and (2) an official transcript of record in each college, junior college, or university attended. Effective in the fall of 1970, a \$15.00 application fee will be required.

New classes enroll only once a year and begin in late September. Applications must therefore be completed not later than September 1 of the year in

which the student wishes to enroll. Only when the Admissions Committee deems it advisable are applications accepted after September 1.

APPLICATIONS FROM NONRESIDENTS OF ILLINOIS

The Admissions Committee is authorized to accept up to ten per cent of each entering first-year professional class from nonresident applicants. However, only highly qualified nonresident students are considered for admission. Applicants for admission who come from foreign countries must make all arrangements in advance. They must furnish complete official credentials and certify that they are able to meet in full the cost of attending the University. Certificates in a foreign language must be accompanied by certified translations.

SELECTION OF APPLICANTS

In granting admission, the Admissions Committee considers each candidate's qualifications, including his scholastic records from all the colleges and universities of recognized standing which he previously attended. Applicants must present a college average of at least 3.25 in terms of the grading system of the University of Illinois for all academic work previously taken. Students entering the College of Pharmacy from other colleges within the University of Illinois, e.g., Liberal Arts and Sciences, who are eligible for continued registration in the University of Illinois but whose overall average is below a 3.25 but above a 3.00 may petition for admission and may be admitted on a probationary status upon recommendation of the Admissions Committee and the approval of the Dean of the College of Pharmacy.

The grading system in force at the University of Illinois is based on the values of A = 5.0, B = 4.0, C = 3.0, D = 2.0, and E = 1.0 (failure).

All applicants seeking admission to the College of Pharmacy receive formal notification of the action of the Admissions Committee.

READMISSION REQUIREMENTS

A student returning to the College of Pharmacy after remaining out of the College one or more quarters is considered for readmission on the basis of the curriculum in effect at the time of his return. Action taken is for the student's best interests, and in no case is he penalized for conditions beyond his control. A student dropped for poor scholarship may at the discretion of the Committee on Student Status and Promotion be readmitted on a probationary status but must prove that he can do work on a level required for graduation.

RENEWING APPLICATIONS

An applicant who has been accepted for admission but fails to enroll, and

who wishes to enter in a subsequent year, must reapply for admission and must meet all requirements in force at the time of the new application.

HIGH SCHOOL REQUIREMENTS

In preparing to enter college for the study of pharmacy, certain high school courses are required to fulfill the fifteen units of acceptable school work. The completion of three years of English, one year of algebra, and one year of plane geometry are among the requirements. The College of Liberal Arts and Sciences of the University of Illinois requires, in addition to the foregoing, two years of Latin or a modern foreign language for admission to the prepharmacy curriculum. A fourth year of English and additional mathematics are helpful but not required. Such courses as biology, chemistry, and physics serve as a foundation for future courses in the College of Pharmacy. The study of history and sociology is also of great value. Skill in the use of a typewriter is an asset to the pharmacy student.

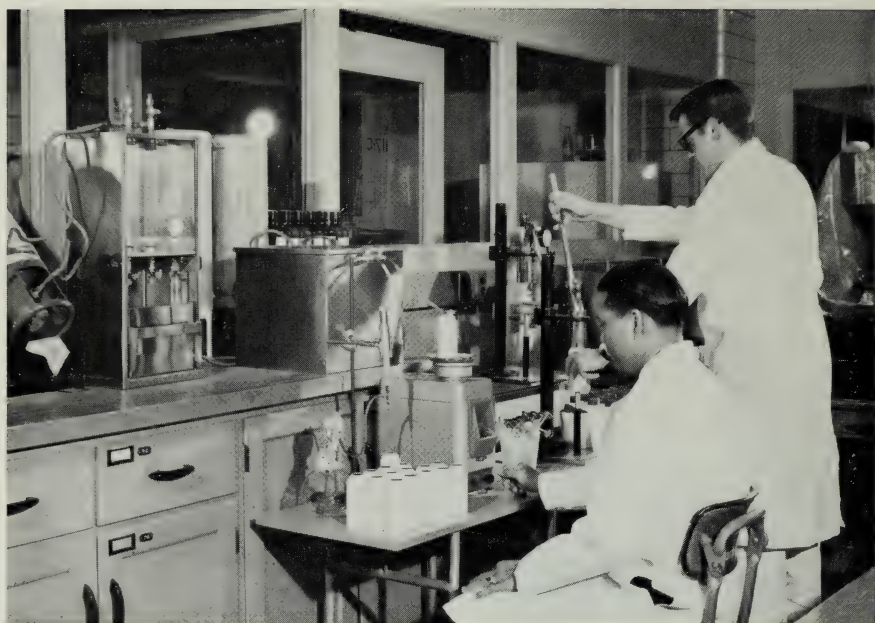
COLLEGE REQUIREMENTS

College work submitted to meet the entrance requirements of the College of Pharmacy must include a minimum of credit in the following courses: general or inorganic chemistry, eight semester hours; college algebra, three semester hours; plane trigonometry, two semester hours; and English composition, six semester hours. The elective courses selected to complete the required thirty semester hours should not include courses offered in the College of Pharmacy but those which will increase the social and cultural background of the student. If credit in courses required in the College of Pharmacy curriculum is offered to meet the minimum admission requirement, the student is required to elect an equivalent number of hours to meet the requirement for graduation.

Upon completion of the pre-pharmacy requirements it is expected that students desiring a degree in pharmacy will apply for registration in the College of Pharmacy.

A student may apply for admission and receive advanced standing in the professional curriculum for the completion of any or all of the following courses completed in an approved college or university. If all are completed, enrollment for a summer session in the College of Pharmacy in Pharmacy 110 and Pharmacy 112 will complete the requirements of the first professional year.

Organic Chemistry, including laboratory.....	10 semester hours
General College Physics.....	8 semester hours
An introductory course (or courses) in Analytical Geometry and the Calculus equivalent to at least.....	3 semester hours
Principles of Accounting.....	3 semester hours
Introduction to Economics.....	3 semester hours
Electives which may include more than the minimum hours of the above or other courses in the Humanities or Social Sciences....	4 semester hours



RESEARCH LABORATORY IN PHARMACY

ADMISSION BY TRANSFER

A person presently enrolled or who has previously attended a college of pharmacy of recognized standing is considered for admission upon presentation of an official transcript of his entire collegiate record showing him to be in good standing at the time of his withdrawal from the institution he last attended. College work completed with a grade of "C" (3.0) or better in addition to the preprofessional requirements, is considered in granting advanced standing in the College of Pharmacy. The degree of Bachelor of Science in Pharmacy is never granted to a student who has not been in residence in this or another college of pharmacy for a minimum of three academic years.

DEPOSIT

Each applicant who is assigned a place in any class in the College of Pharmacy is required to make a deposit of \$30.00 within two weeks of the date of notification that he will be admitted. This deposit is applied on fees assessed against him at the time of registration. Failure to pay this deposit within the specified time subjects the applicant to forfeiture of his place. This deposit is not refundable.

PHYSICAL REQUIREMENTS

Evidence of satisfactory health is desirable before enrollment, and a certificate attesting to the applicant's health is requested from the Health Service of the last institution attended or from the applicant's private physician.

Each applicant is advised to contact a physician in regard to his health, the possible need for glasses or correction of other defects, and to insure that immunizations for smallpox, tetanus, and poliomyelitis are up to date.

Each student accepted for admission is required to report to the University Health Service for a medical examination, laboratory tests, and immunizations. If immunizations are done beforehand by a private physician and the results in writing are brought in, much time can be saved.

Appointments for the physical examination by the Health Service can be made by telephone, 663-7420, or in person at Room 130, Research and Educational Hospitals, 840 South Wood Street, Chicago 60612. These appointments should be made as soon as possible after the letter of acceptance is received. Enrollment in the College of Pharmacy is not continued without approval from the Health Service.

GRADUATION REQUIREMENTS

A candidate for the degree of Bachelor of Science in Pharmacy must meet the following general requirements: (1) be of good moral character, (2) pay all indebtedness to the University, (3) obtain passing grades in all courses of the required curriculum, and (4) have completed the four-year professional curriculum of 189 quarter hours with a minimum average of "C," equivalent to a minimum grade-point average of 3.0 including grades in courses transferred from other institutions. In addition, he must have a "C" average (3.0) for all courses taken in the College of Pharmacy of the University of Illinois or transferred from other branches of the University of Illinois. All grades in courses which count toward graduation are used in computing the average necessary for graduation. Where a course has been repeated, both the original and subsequent grades are included in the average. Either the first three years of work in the professional curriculum, or the last year, must be done in the College of Pharmacy.

STATE REGISTRATION OF PHARMACISTS

The Pharmacy Practice Act of the state of Illinois in effect January 1, 1956, provides among other things that:

Sec. 6(a). "Any person shall be entitled to registration as a registered pharmacist who is not less than 21 years of age, of good moral character and temperate habits, a graduate of an accredited high school or whose educa-

tion is equivalent thereto in the discretion of the Board, a graduate of a course of at least four academic years with a pharmaceutical degree from a school or college of pharmacy or department of pharmacy of a university recognized and approved by the Department and who has had at least one year of pharmacy apprenticeship experience from and after the successful completion of at least one academic year of attendance in a school or college of pharmacy or department of pharmacy of a university recognized and approved by the Department, in assisting in the practice of pharmacy under a registered pharmacist in a drug store or pharmacy in this State or in any other State, or in a drug store or pharmacy in a hospital, or similar institution conducted by the Army, Navy, Air Corps, Marine Corps, Coast Guard, Veteran's Administration, or Public Health Service of the United States, or by the State Militia or National Guard of any State thereof, where the practice of pharmacy, including the compounding of prescriptions, is carried on, and who shall pass a satisfactory examination prescribed by the Board of Pharmacy.

(b) "No person shall be registered as a registered pharmacist who is not a citizen of the United States, or who has not made a declaration of intention to become a citizen, or who, having made such declaration of intention, has not filed a petition for naturalization within 30 days after becoming eligible to do so, and no certificate of registration as a registered pharmacist shall be continued or renewed for any person, who having made such declaration of intention has not filed a petition for naturalization within 30 days after becoming eligible to do so.

(c) "The Department of Registration and Education may in its discretion register as a registered pharmacist, without examination, any person who is duly registered as a pharmacist by examination in some other State, provided that the said person shall produce evidence satisfactory to the Board of having had the required secondary and professional education and training, and is possessed of good moral character and temperate habits, as required of applicants for registration as pharmacists under the provisions of this Act; provided, that persons of good moral character and temperate habits who have become registered as pharmacists by examination in other states prior to the effective date of this Act, shall be required to satisfy only the requirements for registration as pharmacists which existed in this State at the time they became registered as pharmacists in such other states, and provided also, that the state in which each said person is registered shall, under like conditions, grant reciprocal registration as a registered pharmacist, without examination, to a registered pharmacist duly registered as such by examination in this State. . . . The person who shall be registered as a registered pharmacist, by reciprocity, under the provisions of this subsection, shall have the authority

to practice the profession of pharmacy in this State, the same as a registered pharmacist who shall be registered, by examination, under the provisions of this Act.”

The Pharmacy Practice Act provides further that:

(f) “Any person shall be entitled to registration as a registered pharmacy apprentice who is of the age of 16 years or over, of good moral character and temperate habits, employed in a drug store or pharmacy in this State under the personal supervision of a registered pharmacist in good standing in this State, a graduate from an accredited high school or comparable school or educational institution recognized by the Department, and who shall have filed a written application therefor, on a form to be prescribed and furnished by the Department for that purpose, accompanied by a fee of \$2. . . . The pharmacy apprenticeship experience required of any applicant for registration as a registered pharmacist . . . shall be computed from and after the successful completion of at least one academic year of attendance in a school or college of pharmacy or department of pharmacy of a university recognized and approved by the Department.

(d) “The year of the required pharmacy apprenticeship experience under this Act shall consist predominantly in assisting registered pharmacists under their direct personal supervision in the practice of pharmacy, including, but not limited to, the compounding and dispensing of prescriptions, the preparing of pharmaceutical preparations, the keeping of records and the making of reports required under local, state and federal laws relating to the operation of a pharmacy and to the practice of pharmacy, and such other duties as may be recommended by the Board of Pharmacy and approved by the Department.”

Questions relative to the apprenticeship training requirements and other qualifications for examination and licensure as a pharmacist should be directed to the Department of Registration and Education, State of Illinois, Springfield, Illinois 62706.

GRADUATE STUDY

The University of Illinois College of Pharmacy offers programs leading to the degrees of Master of Science and Doctor of Philosophy in Pharmaceutical Chemistry, Pharmacognosy, and Pharmacy. Admission to the graduate program in any of these disciplines is governed by the general regulations and requirements of the Graduate College of the University of Illinois at the Medical Center in Chicago.

Students planning for study leading to an advanced degree in chemistry must have the degree of Bachelor of Science in Pharmacy or Chemistry.

Those desiring admission to a graduate curriculum in Pharmacy must have either a Bachelor of Science in Pharmacy or a Bachelor of Pharmacy degree or an equivalent professional degree. Pharmacognosy requires a Bachelor of Science in Pharmacy before admission is granted to the curriculum in this discipline.

Students interested in the advanced programs of study should direct their inquiries to the heads of the respective departments in which they plan to work toward the advanced degree. Requirements and courses offered are listed in the official bulletin of the Graduate College.

STUDENT HOUSING

Excellent residence hall accommodations are available in a location convenient to all campus functions. The Student Residence Hall provides single and double rooms for 412 men and women. A fully air-conditioned Women's

STUDENT RESIDENCE HALL



en's Residence Hall houses 177 women during the academic year and both men and women in the summer months.

All rooms are equipped with single beds, storage chests, study desks and chairs, adequate closet space, and related accessory items. Weekly maid service is provided. Facilities also include central washrooms, automatic elevators, laundry rooms equipped with washers and dryers, a recreation room, lounge, and a television viewing area. The counseling staff assists students in their personal development and an active student association organizes social programs and events throughout the year. A wide selection of expertly prepared foods are offered daily by a professionally trained food service staff.

The residence hall contract includes room and board (20 meals per week) and is payable in full, quarterly, or by installments. For current rates, application forms, and additional information about housing, write to the Housing Office, P.O. Box 6998, Chicago, Illinois 60680.

The Illini Union building, described on page 11, is interconnected with the residence halls; together they provide the resident student with an outstanding living environment.

FEES AND EXPENSES

A schedule of quarterly fees for students in the College of Pharmacy is listed below. One-third of each year's fees is payable on registration for each quarter. The Board of Trustees of the University reserves the right to change the fees at any time through publication in the annual announcements.

	Range I		Range II		Range III	
	<i>Above 10 quarter hours or above 2 units</i>		<i>Above 5 hours or 1 unit up to and including 10 hours or 2 units</i>		<i>Above 0 up to and including 5 hours or 1 unit</i>	
	Resident	Nonresident	Resident	Nonresident	Resident	Nonresident
Tuition (except those holding exemptions)	\$ 82.00	\$284.00 ³	\$58.00	\$200.00 ³	\$34.00	\$114.00 ³
Service Fee ¹	37.00	37.00	26.00	26.00	15.00	15.00
Hospital-Medical-Surgical Insurance Fee ²	7.00	7.00	7.00	7.00	7.00	7.00
Total	\$126.00	\$328.00	\$91.00	\$233.00	\$56.00	\$136.00

¹ Persons on the academic, administrative, or permanent nonacademic staff of the University, or on the staffs of allied agencies, and persons registered in absentia or off-campus are exempt from this fee.

² Students presenting evidence of equivalent coverage may receive a waiver of the Hospital-Medical-Surgical Insurance Fee upon approval of a petition submitted to the University Insurance Office not later than the final day established for full refund of fees. Persons registered for thesis research in absentia are not assessed this fee. Married students may obtain family coverage by the payment of additional fees but must make arrangements at time of registration.

³ Beginning in the fall of 1970, tuition for nonresident students will be: Range I, \$316.00; Range II, \$222.00; Range III, \$124.00.

Change of Program Fee. A fee of \$1.00 is charged for every change slip issued at the request of the student.

Late Registration Fine. Former students who register after the regular registration days in any quarter pay a late registration fine of \$15.00.

Special Examination Fee. For any special examination given in a course which has been failed, the fee is \$10.00.

Transcript Fee. Each student who has paid all his University fees is entitled to receive, without charge, one transcript of his record. For each additional transcript the fee is \$1.00.

Unclassified Students. Unclassified students pay fees on the same scale as classified students.

Visitor's Fee. Persons not holding tuition waivers who register for less than a full program of credit courses (Range II or III) pay for each noncredit course \$15.00. (This is in addition to the required tuition and fees for credit courses.) If taken alone, noncredit courses other than thesis research and seminar are assigned to Range III.

SERVICE CHARGE FOR DEFERRED FEES

Students may arrange for deferment of fees (installment payments) by calling at the Business Office, 187 College of Pharmacy Building. A non-refundable service charge of \$2.00 a quarter is charged for the privilege of deferring fees. The service charge, not less than one-third of the current quarter's fees, and all fees and charges from previous terms must be paid on the day of registration. Registration is not completed until fees are paid in full, and failure to meet payments within the time limit cancels the privilege of attending classes.

REFUNDS

If a student withdraws during the first ten days of a quarter, his total fees are refunded with the exception of a non-refundable amount of \$20.00. If he withdraws after ten days attendance but before one-half of the quarter has elapsed, a refund of one-half of his total fees is made after the deduction of the above mentioned amount. No refund is made if the student withdraws after one-half of the quarter's work has elapsed.

EXPENSES

From \$150.00 to \$200.00 a month may be regarded as adequate for the ordinary living expenses of a student in Chicago, exclusive of books, clothing, railroad fare, and miscellaneous needs. The initial expense for books and materials for the first year averages approximately \$100.00. Some of the

books purchased in the first year are used throughout the four years, thereby reducing the expenses for upperclassmen.

SCHOLARSHIPS, HONORS, AND PRIZES

SCHOLARSHIPS AWARDED ON THE BASIS OF A COMPETITIVE EXAMINATION

A number of scholarships are awarded annually in each county on the basis of a competitive examination. The examination is of the objective type and is designed to measure abilities which predict success in the University. It is based on knowledge and skill normally acquired before completion of secondary education.

Students should make inquiry of their county superintendent of schools or high school principal no later than October 1 concerning the date and place of the examination for scholarships to begin the following June or September. Application for any of the following scholarships, which are awarded on the basis of this examination, should be made to the county superintendent of schools of the county in which the applicant resides. Unless otherwise stated, all the scholarships can be used only at the University of Illinois. All are of equal value and exempt the holder from tuition. They do not cover other fees.

County Scholarships. Two County Scholarships are awarded to the highest ranking candidates in each county.

Value: Tuition waiver for four years.

Scope: May be used in any course at any of the six state-supported universities in Illinois.

Eligibility: Candidate must be a resident of Illinois and of the county where application is made. Awarded only to high school graduating seniors; individuals who have had any college-level work after high school graduation are not eligible.

Special County Scholarships. Additional scholarships are awarded in counties with populations in excess of 100,000.

Value: Tuition waiver for four years.

Scope: May be used in any course at the University of Illinois.

Eligibility: Candidate must be a resident of Illinois and of the county where application is made. Awarded only to high school graduating seniors; individuals who have had any college-level work after high school graduation are not eligible.

Veterans' Children's Scholarships. One scholarship is awarded in each

county to a child of a veteran of World War I, one to a child of a veteran of World War II, and one to a child of a veteran who served at any time during the national emergency between June 25, 1950, and January 31, 1955. Preference is given to candidates whose fathers are deceased or disabled. *A candidate for one of these scholarships must submit promptly evidence of his father's service (honorable discharge or photostat thereof), and an affidavit from the father or mother to establish the fact that the candidate is a child of the veteran, and whether or not the father is deceased or disabled.*

Value: Tuition waiver for four years.

Scope: May be used in any course in the University of Illinois.

Eligibility: Candidate must be a resident of Illinois and of the county where application is made. Children of veterans may compete even if they have had college work in the University of Illinois or any other college. There is no special average required for this college work.

EDUCATIONAL OPPORTUNITY GRANTS

The University has a limited number of Educational Opportunity Grants available to students with exceptional financial need who require these grants to pursue their education. To be eligible, the student must also show academic or creative promise. Grants range from \$200 to \$1,000 a year and can be no more than one-half of the total assistance given the student. The amount of financial assistance a student may receive depends upon his need — taking into account his financial resources, those of his parents, and his educational costs.

GENERAL ASSEMBLY SCHOLARSHIPS

Each member of the Illinois General Assembly may nominate each year one student from his district for a four-year scholarship. Original nominations must be made before the beginning of the school semester. The law provides also for appointments to fill vacancies of unused portions of scholarships.

Value: Tuition waiver for four years unless the award is for the unused portion of a scholarship for less than four years.

Scope: May be used in any course in the University of Illinois.

Eligibility: Nominee must be a resident of Illinois and of the district from which he is nominated.

Health Professions Scholarship Program. This program was designed to enable talented students from low-income families to undertake the course of study required to become physicians, dentists, osteopaths, optometrists, pharmacists, or podiatrists. *The prime consideration is need.*

Value: The maximum amount a student may receive each year is \$2,500. In determining the amount of the scholarship, the school will consider the total expenses needed to pursue the chosen course of study and the financial resources available for meeting these expenses. Application forms are available at the Office of Student Affairs.

Illinois State Grant Program. This program offers monetary aid to college students who are residents of Illinois, on a non-competitive basis. Applications are available at the Office of Student Affairs and must be submitted to the Commission office by students before February first each year.

MILITARY SCHOLARSHIPS

A statute provides a four-year tuition scholarship for each veteran who served in World War I if he entered the service between April 6, 1917, and November 11, 1918, and for each veteran who served in the Armed Forces at any time after September 16, 1940, provided eligibility requirements listed below are met.

Value: Tuition waiver for four years.

Scope: May be used in any course at any of the six state-supported universities in Illinois.

Eligibility: Veteran must have been honorably discharged (separated) from active service, and prior to entering active service must (a) have been a bona fide resident of Illinois, or (b) have been a bona fide resident of Illinois until at least six months prior to entering active service, have returned to Illinois within six months after leaving active service, and have resided in Illinois not less than one year immediately prior to the date of application for the scholarship, or (c) have been a student at one of the state-supported universities in Illinois at the time of entering active service.

Limitation: Not available to veterans who are receiving financial aid from the federal government for educational purposes.

SCHOLARSHIPS AWARDED BY THE ILLINOIS STATE SCHOLARSHIP COMMISSION

By authorization of the state legislature, funds are provided for scholarships which may be used in any approved college or university in Illinois. High school seniors who rank in the top 50 per cent of their graduating classes may write the State Scholarship examination. Approximately 2,500 awards are made each year to entering freshmen. The scholarships are awarded to the best qualified applicants on the basis of high school academic record and performance on a state examination, who can show financial need. High-ranking candidates who do not show financial need are given honorary awards. Cash awards are limited to tuition and fees, and may not exceed

\$750 a year. These are annual awards but are renewed for three additional years if the holder maintains a satisfactory record and shows financial need. These awards are administered by the Illinois State Scholarship Commission. Applications for these scholarships are available through high school principals.

SCHOLARSHIPS AWARDED BY THE UNIVERSITY COMMITTEE ON SPECIAL UNDERGRADUATE SCHOLARSHIPS

There are several scholarships which are good in any college within the University and which are awarded by the University Committee on Special Undergraduate Scholarships. Application should be made to the Director of Undergraduate Scholarship Program, 907 South Sixth Street, University of Illinois, Champaign, Illinois 61820, as soon as possible after November 1 of each year.

GRANTS-IN-AID AWARDED BY THE COLLEGE OF PHARMACY COMMITTEE ON AWARDS AND SCHOLARSHIPS

This committee has at its disposal a number of grants-in-aid which may be awarded on the basis of need. Applications should be addressed to the Dean of the College of Pharmacy.

GRANTS-IN-AID AWARDED BY PHARMACEUTICAL ORGANIZATIONS

The following pharmaceutical organizations or commercial establishments have given funds for grants-in-aid which are awarded primarily upon the scholastic ability and the need of the individual student:

Alumni Association, University of Illinois College of Pharmacy

American Foundation for Pharmaceutical Education

Charles P. Bondy Memorial Fund for Pharmacy

Chicago Retail Druggists Association

Douglas Pharmaceutical Council

Gazzolo Drug and Chemical Company

Myron Goldsmith Memorial Fund

Ladies Auxiliary of the Chicago Retail Druggists' Association

Al R. Langerman Memorial Fund

McKesson & Robbins Inc.

Maurice Skelton Memorial Fund

Women's Auxiliary of the Chicago Colleges

Women's Auxiliary of the Illinois Pharmaceutical Association

Women's Organization of the Chicago Retail Druggists' Association

HONORS

Graduation with Honors. A student who complies with the requirements

for graduation, and who attains in all work presented for the degree the average grade specified below, may be recommended by the University Senate for the honors stated: for an average grade of not less than 4.35, graduation with honors; for an average grade of not less than 4.75, graduation with high honors. The honors awarded are noted on the diploma and in the Commencement program.

Honors Day Convocation. An Honors Day Convocation is held annually. Certificates indicating attainment of honors are awarded to members of all four classes who have maintained an average grade of not less than 4.35, and certificates indicating attainment of high honors are awarded to members of all four classes who have maintained an average grade of not less than 4.75. These averages are determined at the beginning of the third quarter of each year. In addition, the prizes indicated in the following section are awarded at this Convocation.

PRIZES

Bristol Laboratories Award. This award is an unabridged medical dictionary presented to an outstanding member of the senior class.

Chicago Retail Druggists Association Ladies Auxiliary Award. This award of \$100.00 is given annually to the freshman student who has the highest scholastic average upon entering the third quarter of the freshman year.

Cutler and Nechamkin Prizes. Mr. Bernard N. Cutler and Mr. Gerald Nechamkin, Certified Public Accountants, offer annually two United States Government Bonds with face values of \$100.00 each to the students who have achieved the highest grades in the courses in retail pharmacy management and in principles of accounting.

William Baker Day Award. Miss Helen M. Day, the daughter of the late William Baker Day, former Professor of Materia Medica and Botany and Dean of the College of Pharmacy of the University of Illinois, has made available a sum of \$50.00 to be awarded annually in memory of her father to a member of the graduating class for excellence in pharmacology.

Paul Eiche Prize. In 1956 the Illinois Pharmaceutical Association received from the executor of the estate of Mr. Paul Eiche the sum of \$2,000 to be held in trust for the purpose of investing the funds and using the income derived therefrom for procuring a gold medal bearing the inscription "Paul Eiche Medal." This medal is awarded to a member of the graduating class who has attained the highest general scholastic average upon entering the third quarter of the senior year.

Elich Prize. Mrs. Herman Elich, in memory of Mr. Herman Elich of the Class of 1896, who as an alumnus of the College of Pharmacy origi-

nated the Elich prize, continues to offer annually a prize of \$25.00 to the senior student with the highest scholastic average in pharmacognosy.

Herbert Martin Emig Award in Dispensing Pharmacy. This award was established by the Class of 1966 in honor of Professor Herbert Martin Emig in appreciation of his forty years of effective teaching of the techniques and professional philosophy of dispensing pharmacy. A plaque is presented to a student who has excelled in all areas of the clinical pharmacy course.

Faculty Scholarship Award. The faculty of the College of Pharmacy sponsors a \$200.00 scholarship for the member of the sophomore class who has attained the highest scholastic average upon entering the third quarter of the sophomore year. This average is to be based on 71 hours of work in the required subjects taken at the University of Illinois.

Myron Goldsmith Presidential Award. A plaque is presented each year to the President of the senior class in memory of Myron Goldsmith.

Ralph M. Henninger Award. In memory of Ralph M. Henninger, a plaque is given annually to the graduating senior who has achieved the highest

PRESENTATION OF RALPH M. HENNINGER AWARD



scholastic standing in the courses in pharmacy upon entering the third quarter of the senior year.

Illinois Pharmaceutical Travelers Association Prize. The Illinois Pharmaceutical Travelers Association sponsors an annual award of \$100.00 for a deserving graduating male student who has sustained a grade-point average of 4.0 or better in pharmacy upon entering the third quarter of the senior year. The basis for choosing the recipient is character, leadership, and scholastic achievement.

Johnson and Johnson Award. The Johnson and Johnson Company sponsors an award consisting of a mortar and pestle which is given to the member of the graduating class who has obtained excellence in courses in pharmacy administration.

Leadership Award. A framed certificate is presented each year to the president of the Student Council.

Lilly Achievement Award. Eli Lilly and Company sponsors an award of a gold medal which is given to a graduating senior for superior scholastic achievement, leadership, and professional attitude.

Merck Award. Merck and Company makes available to outstanding members of the graduating class copies of the Merck Index and the Merck Manual.

McKesson and Robbins Inc. Recognition Award. A plaque and gavel are presented each year to the president of the Student Branch of I.Ph.A.

Rho Chi Prize. Phi Chapter of Rho Chi, honorary pharmaceutical society, awards annually an embossed copy of the United States Dispensatory as a prize to the sophomore student who has attained the highest scholastic average upon entering the third quarter of the sophomore year.

Samuel Shkolnik Jurisprudence Award. An award of \$100.00, donated in the name of Samuel Shkolnik by Humiston-Keeling Company, is given annually to the student earning the highest average in pharmaceutical jurisprudence.

Van Schaack Prize. By the will of Cornelius P. Van Schaack, the College of Pharmacy received in 1937 the sum of \$1,000.00 to be held in trust by the University. The annual income from this bequest is used for the purchase of a gold medal, known as the C. P. Van Schaack Award, which is presented to the senior student who has the highest scholastic average in chemistry upon entering the third quarter of the senior year.

Charles R. Walgreen, Jr. Scholarship Award. This award of \$300.00 is given annually to the junior student who has the highest scholastic average upon entering the third quarter of the junior year.

Women's Auxiliary of the Illinois Pharmaceutical Association Scholarship Award. This award of \$300.00 is given annually to the junior woman student who has the highest scholastic average upon entering the third quarter of the junior year.

LOAN FUNDS

Several loan funds have been established for the benefit of worthy students who have satisfactorily completed at least one year of work in the University and are in need of financial aid in order to finish their courses. Information concerning these funds and the regulations governing loans may be obtained from the office of the Dean of the College. The loans described here are for the exclusive use of students of pharmacy.

Ebert Loan Fund. In 1907, following the death of Mr. Albert E. Ebert who had taken an active part in the development of the College of Pharmacy, the Alumni Association of the College established a fund in memory of Mr. Ebert. Later contributions were made by the Women's Organization of the Chicago Retail Druggists' Association to establish a loan fund. In 1931 the funds were combined into one known as the Albert E. Ebert Loan Fund. The Class of 1932 also contributed to this fund. Loans are made available to deserving students.

Goldenrod Ice Cream Company Loan Fund. Established in 1943, through a gift from the Goldenrod Ice Cream Company of Chicago, this fund provides for loans to students.

Goldstine Emergency Loan Fund. This fund for emergency loans to students was established by the Board of Trustees in 1933. The name was changed in 1943 when the fund was increased by a gift from Mr. Harry Goldstine.

Health Professions Student Loan Program. This special federal loan program is available to second- third- and fourth-year pharmacy students. The primary qualification for a loan is need, and parents are required to submit a financial statement. Qualified students may borrow up to a maximum of \$2,500 per year.

Interest begins three years after graduation, with ten years permitted for repayment. Interest is computed at the federal rate at the time the loan is made. Currently the interest rate is 5% per cent.

Detailed information and application forms may be obtained in the Office of Student Affairs.

Illinois Guaranteed Loans. The Guaranteed Loan program is designed to

assist students from middle and upper income groups. Frequently the education of these young people places a serious financial burden on their families, particularly if there are several children who want to go to college.

Under this program, a student may borrow from a bank or other financial institution. If his family has an adjusted income of less than \$15,000 a year, he pays no interest on his loan while he is in school. Repayment of principal and interest at the rate of 4 per cent begins when the student has ceased his course of study.

A student from a family with an adjusted income of \$15,000 or more pays 7 per cent interest on the loan semi-annually while he is in school. Repayment on the principal begins when he ceases his education. A student may borrow up to \$1,500 annually.

National Defense Education Act Student Loan Fund. First-year pharmacy students enrolled in full-time or at least half-time courses who need financial help for educational expenses are eligible to borrow up to a maximum of \$1,000 per year. The repayment period and the interest of 3 per cent do not begin until nine months after the student completes his education. Repayment may be extended for a period of ten years.

Student Council Emergency Loan Fund. A sum of money available for emergency loans to students in need of financial aid is on deposit with the Chicago Organizational Fund.

Sidney A. Roth Memorial Fund. The Alumni Chapter of the Delta Kappa Sigma Chapter of Rho Pi Phi fraternity has made available an amount equivalent to the tuition and fees for one quarter to students needing financial assistance. The loan is made upon the recommendation of the Dean of the College of Pharmacy.

ORGANIZATIONS

ALUMNI ASSOCIATION OF THE COLLEGE OF PHARMACY

President: JACOB T. KEEFER '39, 15 North Waverly Place, Mount Prospect, Illinois

Vice-President: STEPHEN M. MADURA '31, 6152 Nelson Street, Chicago, Illinois

Secretary: SAMUEL SHKOLNIK '25, 111 West Washington Street, Chicago, Illinois

Treasurer: GEORGE L. WEBSTER '22, 1000 Forest Avenue, Wilmette, Illinois

Trustees:

JACOB T. KEEFER '39, 15 North Waverly Place, Mount Prospect, Illinois
STEPHEN M. MADURA '31, 6152 Nelson Street, Chicago, Illinois
SAMUEL SHKOLNIK '25, 111 West Washington Street, Chicago, Illinois
GEORGE L. WEBSTER '22, 1000 Forest Avenue, Wilmette, Illinois
JULIUS M. THOMAS '23, 1815 Touhy Avenue, Chicago, Illinois
DAVID W. WATT '41, 829 Fayette, Springfield, Illinois
EARL FRIESE '32, 2100 West 35th Street, Chicago, Illinois
THOMAS A. BRAUN '57, 1460 Forest Avenue, Des Plaines, Illinois
MAX ULLRICH '54, 319 South Pine, Mount Prospect, Illinois

Representative (on General Alumni Board):

MEYER C. BALIN '25, 3745 West Eastwood Avenue, Chicago, Illinois

STUDENT CHAPTER OF THE AMERICAN PHARMACEUTICAL ASSOCIATION — ILLINOIS PHARMACEUTICAL ASSOCIATION

The Student Chapter of the American Pharmaceutical Association — Illinois Pharmaceutical Association is the only organization which offers professional membership to all students in the College of Pharmacy. The organization maintains an active professional program and cooperates with the national and state Associations. Approximately 70 per cent of the students enrolled in the College of Pharmacy are active members of the Association. Seniors in good standing in the Student Chapter at the time of their graduation are accorded full membership in the American Pharmaceutical Association and Illinois Pharmaceutical Association until January 1 of the succeeding year.

RHO CHI

Phi Chapter of Rho Chi, national honor society in Pharmacy, organized to promote the advancement of the pharmaceutical sciences, is located at the College of Pharmacy. Students who have completed 115 quarter hours of work of the professional curriculum with an average of at least 4.0 and in the highest 20 per cent of their class are eligible for membership.

OTHER PHARMACEUTICAL ASSOCIATIONS

The College of Pharmacy holds membership in the American Association of Colleges of Pharmacy. The object of the association is to promote the interests of pharmaceutical education, and all institutions holding membership must maintain certain minimum requirements for entrance and graduation. Through the influence of this association, high standards of education are maintained.

PLAN OF INSTRUCTION

Pharmacy is a health profession concerned with the selection, preservation, standardization, preparation, and distribution of drugs and medicinals. It is based on two groups of fundamental sciences, the physical and the biological. Advancements in these sciences have contributed so much to the health professions that it is imperative for the pharmacist to be thoroughly trained in the fundamental sciences as well as in the applied and professional subjects. Accordingly, ample time in the curriculum of the College of Pharmacy is devoted to the physical and biological sciences and other subjects necessary to the practice of pharmacy.

As there are several allied and related fields to which individuals with a pharmaceutical training are particularly adaptable, each student is permitted to elect specialized courses during his four years.

The College of Pharmacy offers the last four professional years of a five-year curriculum leading to the degree of Bachelor of Science in Pharmacy, as summarized on page 33. The courses included in the basic curriculum are required of all students. Elective courses for each year are determined through consultation with a faculty counselor.

SIGNIFICANCE OF GRADES OF THE COLLEGE OF PHARMACY

Grades given for work in the College of Pharmacy are as follows: A, excellent; B, good; C, fair; D, poor (but passing); E, failure. Numerical equivalents of these grades on the basis of which averages are made are as follows: each hour of A grade carries 5 grade points; each hour of B grade, 4 grade points; each hour of C grade, 3 grade points; each hour of D grade, 2 grade points; each hour of E grade, 1 grade point.

In addition to the above grades, the following symbols are used. The symbol W indicates withdrawal from a course with permission of the Dean. The grade of E may be given to students withdrawing from a course who were doing unsatisfactory work at the time of withdrawal. Withdrawal because of military service is subject to special regulations. If a student is absent from the final examination without excuse acceptable to the Dean, the symbol Ab is used and counts as a failure. If a student is absent from the final examination with excuse acceptable to the Dean, the symbol Ex is used. The mark of Ex entitles the student to an examination later without fee, but becomes a failure, unless removed at the first opportunity approved by the Dean. The symbol Dr indicates that the student was dropped for academic irregularity and counts as a failure.

In order to qualify for graduation, a student must have completed success-

fully a minimum of 189 quarter hours of the professional curriculum and earned a minimum of 567 grade points. A minimum grade-point average of 3.0 or C, including work taken elsewhere and accepted for advanced credit, is required for graduation. An average of not less than 3.0 must be attained in work done at the University of Illinois. Failures of required courses in the curriculum must be removed by repeating successfully those courses in which a grade of E is obtained. Where a course is repeated, both the original and subsequent grades are included in the average.

Probationary Status. A student who fails to achieve an over-all grade-point average of 3.0 at the end of any quarter is placed on probation. Probation is removed at the end of any quarter in which the grade-point average of that quarter and the cumulative grade-point average for work taken in the College of Pharmacy equals or exceeds 3.0. A student on probation may not be initiated into a fraternity or sorority or elected to office in a student organization during the period of probation and may be required to limit the number of hours attempted during the period of probation. Any student who consistently earns grades under C may, at the discretion of the Committee on Student Status and Promotion, be denied promotion to the next higher class.

Refusal of Further Registration Because of Poor Scholarship. A student who fails to remove himself from probationary status during his next period of registration may be dropped for poor scholarship. A student who receives either unsatisfactory or failing grades in a substantial portion of the work for which he receives a grade at the end of a quarter may be dropped for poor scholarship. A student who receives failing grades in one-half or more of the work for which he receives a grade at the end of a quarter is dropped for poor scholarship. A student who is refused further registration because of poor scholarship may petition the Committee on Student Status and Promotion for readmission. Reconsideration of the case of a student dropped for poor scholarship does not guarantee readmission. Except for unusual circumstances, a student may be reinstated only once.

Promotion to the Next Higher Class. Any student who, at the end of the academic year, has completed substantially all of the normal program, and has a cumulative grade-point average of 3.0 or better, is promoted to the next higher class. A student who, at the end of the academic year, has a cumulative grade-point average of less than 3.0 may be promoted to the next higher class only with the approval of the Committee on Student Status and Promotion. If a student's cumulative grade-point average is substantially below 3.0, promotion to the next higher class may be withheld.

SUMMARY OF CURRICULUM IN PHARMACY

	FIRST YEAR									Total Cr.
	First Quarter			Second Quarter			Third Quarter			
	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.	
Chemistry 111, 112, 113.....	4	4	5	4	4	5	4	4	5	15
Pharmacy 110, 112.....	1	0	0	3	3	4	..	..	..	4
Pharmacy Administration 111, 113..	4	0	4	..	..	..	4	0	4	8
Physical Education 101, 102, 103...	3	0	0	3	0	0	3	0	0	0
Physics 111, 112, 113.....	3	3	4	3	3	4	3	3	4	12
	15	7	13	13	10	13	14	7	13	39
Mathematics 111* or Electives.....	3 - 4			3 - 4			3 - 4			49-51

* Required subject not in lieu of electives

	SECOND YEAR									Total Cr.
	First Quarter			Second Quarter			Third Quarter			
	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.	
Chemistry 121, 122, 123.....	3	3	4	2	8	4	4	4	5	13
Pharmacy 121, 122, 123.....	3	3	4	3	3	4	3	3	4	12
Pharmacy Administration 121.....	4	0	4	..	..	..	..	..	..	4
Zoology 121, 122, 123.....	2	6	4	2	6	4	2	6	4	12
	12	12	16	7	17	12	9	13	13	41
Electives.....				3 - 4			3 - 4			47-49

	THIRD YEAR										Total Cr.
	First Quarter			Second Quarter			Third Quarter				
	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.		
Chemistry 231, 342.....	2	6	4	4	0	4	..	..	..	8
Microbiology 233.....	..	..	..	..	..	..	3	6	5	5
Pharmacognosy 231, 232, 233.....	3	3	4	3	3	4	3	3	4	12	
Pharmacy 231, 232, 237.....	2	6	4	3	3	4	1	3	2	10	
Pharmacy 235.....	..	..	..	..	..	..	2	0	2	2
Physiology 231, 232.....	4	0	4	4	0	4	..	..	..	8
	11	15	16	14	6	16	9	12	13	45	
Electives.....							3 - 4			48-49	

	FOURTH YEAR										Total Cr.
	First Quarter			Second Quarter			Third Quarter				
	D.	L.	Cr.	D.	L.	Cr.	D.	L.	Cr.		
Pharmacology 241, 242, 243.....	3	4	4	3	4	4	3	4	4	12	
Pharmacology 244.....	..	..	..	2	0	2	..	..	..	2
Pharmacy 241, 242, 243.....	3	3	4	3	3	4	3	3	4	12	
Pharmacy Administration 243.....	..	..	..	..	..	..	4	0	4	4
Public Health 241.....	4	0	4	..	..	..	..	..	..	4
	10	7	12	8	7	10	10	7	12	34	
Electives.....	6 - 8			3 - 4			3 - 4			46-50	

Basic curriculum 163 hours; 189 hours required for graduation.

ELECTIVES AVAILABLE TO BOTH UPPER AND LOWER CLASSMEN

	Didactic	Laboratory	Credit Hours
Chemistry 301.....	2	8	4
Chemistry 335.....	4	0	4
Chemistry 336.....	4	4	5

	Didactic	Laboratory	Credit Hours
Chemistry 355.....	4	0	4
Chemistry 356.....	1	7	3
Chemistry 357.....	3	0	3
English 110.....	3	0	3
English 115.....	3	0	3
English 224.....	3	0	3
English 225.....	3	0	3
English 235.....	3	0	3
Mathematics 110.....	4	0	4
Mathematics 115.....	4	0	4
Mathematics 116.....	4	0	4
Pharmacy 295.....	1	0	1
Physics 315.....	3	0	3
Psychology 126.....	3	0	3
Psychology 130.....	3	0	3
Sociology 125.....	3	0	3
Zoology 205.....	3	3	4

ELECTIVES AVAILABLE ONLY TO UPPER CLASSMEN

Chemistry 245.....	..	..	(1-4)
Chemistry 343.....	2	6	4
Chemistry 345.....	4	0	4
Chemistry 347.....	3	0	3
Chemistry 348.....	0	8	2
Chemistry 349.....	2	6	4
Mathematics 360.....	4	0	4
Mathematics 362.....	4	0	4
Mathematics 365.....	4	0	4
Parasitology 341.....	4	3	4
Pharmacognosy 245.....	..	..	(1-4)
Pharmacognosy 301.....	3	3	4
Pharmacognosy 302.....	3	3(6)	4(5)
Pharmacognosy 303.....	2	6(9)	4(5)
Pharmacognosy 306.....	2	3	3
Pharmacognosy 314.....	1	6	3
Pharmacognosy 316.....	3	0	3
Pharmacology 245.....	..	..	(1-4)
Pharmacology 250.....	3	0	3
Pharmacology 310.....	2	6	4
Pharmacy 245.....	..	..	(1-4)
Pharmacy 250.....	2	3	3
Pharmacy 255.....	2	4	3
Pharmacy 260.....	2	8	4
Pharmacy 265.....	2	4	3
Pharmacy 275.....	2	3	3
Pharmacy 280.....	3	0	3
Pharmacy 301.....	3	0	3
Pharmacy 302.....	2	4	3
Pharmacy 305.....	3	0	3
Pharmacy 310.....	2	4	3
Pharmacy Administration 235.....	4	0	4
Pharmacy Administration 240.....	4	0	4
Pharmacy Administration 245.....	..	..	(1-4)
Pharmacy Administration 255.....	4	0	4
Physics 325.....	2	4	3
Zoology 215.....	3	3	4
Zoology 245.....	..	..	(1-4)
Zoology 245.....	1	0	1
Zoology 310.....	2	6	4

COURSES OF INSTRUCTION

The following list of subjects is arranged by departments. The description of each course includes a statement of the number of lectures, recitations, or laboratory periods each week (each period being fifty minutes unless otherwise specified). The number of didactic periods and laboratory hours are shown in the summary of the curriculum, which also shows the credit in quarter hours. In the description of each course the quarter during which it is given is indicated by a Roman numeral, "I" for the first quarter, "II" for the second quarter, and "III" for the third quarter, followed by an Arabic numeral in parentheses indicating the number of credit hours. For example, "I, (3)" means that the course is given in the first quarter for three hours of credit. The expression "I, II, or III" is used if the course may be taken in any quarter.

CHEMISTRY

- 111, 112, 113. Organic Chemistry.** This course involves a study of the nomenclature, occurrence, uses, physical properties, synthesis, and reactions of organic compounds. The treatment is based on the functional groups of acyclic, alicyclic, aromatic, and heterocyclic compounds, and includes a consideration of polyfunctional compounds, fats, peptides, carbohydrates, and macromolecules. Concepts of stereochemistry, resonance, reaction mechanisms, and organic theory are used to develop an understanding of the course material. Three lectures, one recitation, and one four-hour laboratory period each week. I, (5); II, (5); and III, (5). These courses must be taken in sequence. Prerequisite: One year of college-level chemistry.
- 121. Introduction to Physical Chemistry.** This introductory course outlines the scope of physical chemistry and its relationships and applications to other fields of science. It considers the physicochemical behavior of gases, liquids, and solutions, with special reference to biological phenomena. Physiological aspects of oxidation-reduction, osmotic pressure, electrolytic dissociation, and the properties of colloids are discussed. Three lectures or recitations and one three-hour laboratory period each week. I, (4). Prerequisite: Chemistry 113; Physics 111, 112, 113; Mathematics 111.
- 122. Quantitative Analysis.** The principles, theories, and techniques of volumetric analysis as related to acidimetry and alkalimetry. Oxidation-reduction, precipitation reactions, and spectrophotometry are discussed. Selected laboratory exercises illustrate the principles and theories involved in each type of reaction. Two lectures and two four-hour laboratory periods each week. II, (4). Prerequisite: Mathematics 111; inorganic chemistry and qualitative analysis.
- 123. Biological Chemistry.** General biochemistry presented at an introductory level considers the chemistry of living cells and tissues including the metabolic changes taking place in these labile systems. Replacement reactions, energetics, enzymes, vitamins, and hormones are discussed. Four lectures and

- one four-hour laboratory period each week. III, (5). Prerequisite: Chemistry 113.
- 231. Drug Assaying.** Basic scientific principles are applied to the standardization and analysis of drugs and pharmaceutical products. Applications of the newer analytical techniques of chromatography, colorimetry, spectrophotometry, and nonaqueous titrations to the control of pharmaceutical products are presented. Two lectures and two three-hour laboratory periods each week. I, (4). Prerequisite: Chemistry 113, 122.
- 245. Undergraduate Research in Chemistry.** The student investigates, under the direction of one or more faculty members, a chemical problem of limited scope. The investigation may include experimentation and library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours' credit. Prerequisite: A grade-point average of 3.5 and permission of the departmental faculty.
- 301. Systematic Identification of Organic Compounds.** The physical and chemical properties, classification, reactions, and methods of synthesis of typical derivatives are employed in the identification of organic compounds. Special conferences and a minimum of eight hours of laboratory work each week. (4). Prerequisite: Chemistry 113, 121.
- 335, 336. Physical Chemistry.** Atomic and molecular structure, chemical thermodynamics, phase equilibria, chemical equilibria, surface chemistry, electrochemistry, and chemical kinetics are discussed in this two-quarter course. Three class meetings in Chemistry 335 each week and three class meetings and one four-hour laboratory in Chemistry 336 each week. Chemistry 335, II, (4); Chemistry 336, III, (5). Prerequisite: Chemistry 113, 121; Physics 112, 113; Mathematics 115, 116, or concurrent registration in Mathematics 115 for Chemistry 335 and concurrent registration in Mathematics 116 for Chemistry 336.
- 342. Chemistry of Medicinals.** Modern synthetic drugs are studied with regard to their nomenclature, methods of synthesis, and relation to other drugs having similar therapeutic, physical, and chemical properties. Four lectures each week. II, (4). Prerequisite: Chemistry 113.
- 343. Chemical Toxicology.** The common sources, chemistry, methods of isolation, and identification of toxic agents commonly encountered as industrial hazards or as the cause of accidental or purposeful poisoning are discussed. Two lectures and two three-hour laboratory periods each week. III, (4). Prerequisite: Chemistry 113.
- 345. Chemistry of Natural Products.** The occurrence, origin, biological significance, nomenclature, physical and chemical properties, methods of isolation, and pharmaceutical uses of important natural substances are studied. Particular attention is given to the sugars, sugar alcohols, polyhydroxyacids, gums, mucilages, pectins, glycosides, fats, waxes, steroids, hormones, alkaloids,

vitamins, enzymes, essential oils, and resins. Four lectures each week. (4). Prerequisite: Chemistry 113, 123.

- 347. Organic Chemistry.** A continuation of the study of organic chemistry with emphasis on the application of general and special reactions to organic synthesis. Three lectures each week. (3). Prerequisite: One-year course in organic chemistry.
- 348. Organic Chemistry Laboratory.** A continuation of organic chemistry with emphasis on techniques in the organic chemistry laboratory. Methods not usually encountered in basic courses in organic chemistry are stressed. Eight hours of laboratory each week. (2). Prerequisite: One-year course in organic chemistry.
- 349. Pharmaceutical Assaying.** Chemical and physical methods of analyzing raw materials and dosage forms of medications are discussed. The principles of sampling and the methods of quantitatively separating active compounds from inactive diluent or vehicles are given special considerations. Two class meetings and two three-hour laboratory periods each week. (4). Prerequisite: Chemistry 231.
- 355. Advanced Analytical Chemistry.** This course provides an advanced treatment of the fundamental principles of analytical chemistry with emphasis on equilibria, on mechanism of important types of chemical reactions, and on methods of separation. Four lectures each week. (4). Prerequisite: Chemistry 122.
- 356. Instrumental Analysis Laboratory.** The practical aspects of instrumental analysis are emphasized. Analytical determinations using potentiometry, polarography, amperometry, coulometry, as well as analytical applications of electronic and vibrational absorption spectroscopy and gas chromatography, will be included in the laboratory experiments. One hour lecture and seven hours of laboratory each week. (3). Prerequisite: Chemistry 121 and 122.
- 357. Theoretical Principles of Instrumental Analysis.** The theoretical principles of instrumental analysis are discussed to provide the user of analytical instruments an understanding of the theories involved. Typical applications are discussed. Three one-hour lectures each week. (3). Prerequisite: Chemistry 122 and Chemistry 336.

ENGLISH

- 110. Introduction to Poetry and the Drama.** Selected dramas and various types of poetry are studied and considered as art forms. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric.
- 115. Introduction to Prose Fiction.** The serious novel and short story are introduced, and representative examples in both categories are read and discussed. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric.

- 224. Survey of American Literature from the Beginnings to the Civil War.** Examples of American writing from Colonial times to the Civil War are read and discussed. Reading assignments include representative literary works with selections from critical writing. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric. English 115 is preferred but not required.
- 225. Survey of American Literature from the Civil War to the Present.** Examples of American writing from the Civil War to the present time are discussed. Reading assignments include representative literary works with selections from significant critical writing. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric. English 115 is preferred but not required.
- 235. The Contemporary Novel.** The course provides critical survey of the chief British and American novelists from 1900 to the present time. A comprehensive reading of major authors to show significant trends in modern prose fiction is required. Three class meetings each week. I, II, or III, (3). Prerequisite: Freshman rhetoric. English 115 is preferred but not required.

MATHEMATICS

- 110. Introduction to Computer Coding.** Basic terminology of digital computation, organization of computers, fundamentals of algorithmic solution of problems including iteration techniques, flow diagrams, and self modification of computer codes. Programming for the IBM 1620 is included. Applications to problems in the health sciences. Four class meetings each week. III, (4). Prerequisite: A college-level mathematics course or permission of the instructor.
- 111. Calculus I.** Coordinate systems, straight lines, functions and graphs, theory of limits, derivatives and integrals of polynomials, applications of differentiation and integration are presented. This course is designed to provide background for required science courses. Four class meetings each week. I, II, or III, (4). Prerequisite: College algebra and trigonometry.
- 115. Calculus II.** Extreme values; derivatives and integrals of trigonometric, logarithmic, and exponential functions; second degree curves; indeterminate forms; standard forms of integration; geometric and physical applications. This course is designed for students desirous of electing advanced chemistry and pharmacy courses. Four class meetings each week. II, (4). Prerequisite: Mathematics 111.
- 116. Calculus III.** Integration by parts; integration of rational fractions; polar coordinates; vectors, parametric equations; introduction to infinite series; partial derivatives; double integrals and applications. This course is designed for students desirous of electing advanced chemistry and pharmacy courses. Four class meetings each week. III, (4). Prerequisite: Mathematics 115.

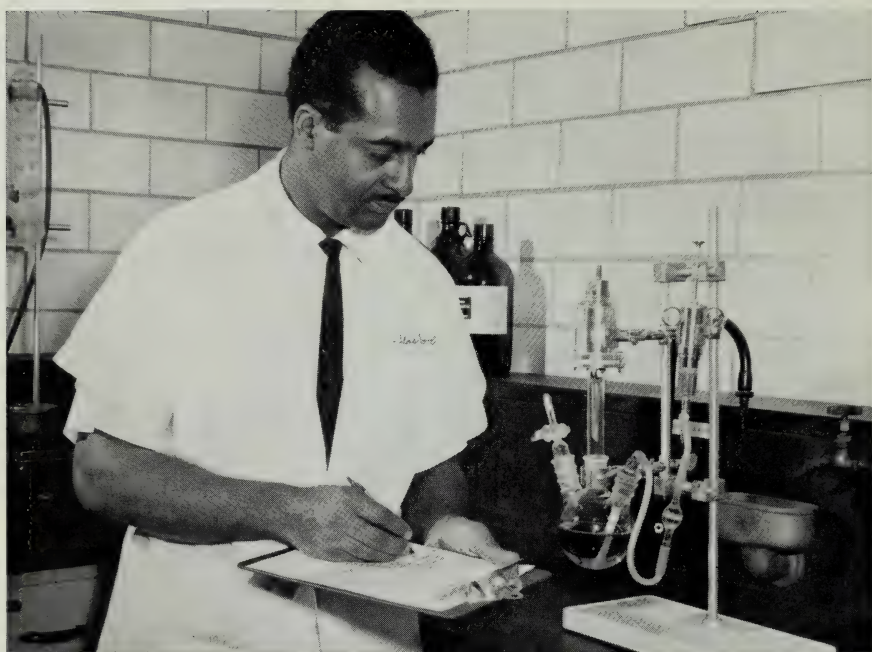
- 360. Differential Equations.** First-order equations, linear equations of first and second order, linear equations of higher order, reduction of order, power series. Partial differentiation and integration, equations of order one, linear equations. Applications to physical problems in the health sciences. Four class meetings each week. III (alternate years), (4). Prerequisite: Calculus.
- 362. Probability and Statistical Inference I.** The theory of probability; averages; dispersion; theory and techniques of sampling; testing of hypotheses. Applications to problems in the health sciences. Four class meetings each week. II, (4). Prerequisite: Calculus.
- 365. Matrices, Vectors and Linear Transformations.** Matrix algebra; determinants; inverse of a matrix, rank and equivalence; linear equations and linear dependence; vector spaces and linear transformations. Applications to physical problems in the health sciences. Four class meetings each week. III (alternate years), (4). Prerequisite: Calculus.

MICROBIOLOGY

- 233. Microbiology.** The characteristics of bacteria, yeasts, and molds; their relation to disease; biologic products and antibiotics prepared from them. Action of antiseptics, disinfectants, and sterilizants are presented. The laboratory work includes the preparation of cultures and stained mounts, isolation and identification of organisms from mixed cultures, and antibiotics. Three lectures and three two-hour laboratory periods each week. III, (5). Prerequisite: Chemistry 123; Zoology 123.

PHARMACOGNOSY

- 231, 232, 233. Principles of Pharmacognosy.** The biological, chemical, and biochemical features of certain compounds synthesized by living organisms are presented. The biological source, chemistry, biosynthesis, conservation, and use of these compounds and related products of economic importance bearing upon the health of man and animal are emphasized. Three lectures and one three-hour laboratory period each week. I, (4); II, (4); III, (4). These courses must be taken in sequence. Prerequisite: Chemistry 123, Zoology 123.
- 245. Undergraduate Research in Pharmacognosy.** The student investigates, under the direction of one or more faculty members, a problem of limited scope in pharmacognosy. The investigation may include experimentation and library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: A grade-point average of 3.5 and permission of the departmental faculty.
- 301. Plant Anatomy.** Vascular plants are studied microscopically. Particular attention is given to the development and evaluation of the vascular systems in all parts of the plant. Three lectures and one three-hour laboratory period each week. II, (4). Prerequisite: Pharmacognosy 231.



PHARMACEUTICAL RESEARCH

302. **Plant Physiology.** Life processes in plants, with particular attention to the cell as the fundamental functional unit, are discussed. The basic principles of plant metabolism are emphasized in relation to essential elements, energy relationship, and other environmental factors. Three lectures or conferences and one three-hour laboratory period each week, I, (4); or three lectures and two three-hour laboratory periods each week, I, (5). Prerequisite: Pharmacognosy 231.
303. **Systematic Pharmacognosy.** A taxonomic study of the flowering plants, with particular emphasis upon those of drug importance is provided. Relationships of the principal orders and families, rules of nomenclature, and systems of classification are considered. Laboratory work includes identification of species, together with the collection, identification, and preservation of drug plant specimens. Two lectures and two three-hour laboratory periods each week, (4); or two lectures and three three-hour laboratory periods each week, (5). Prerequisite: Pharmacognosy 233.
306. **Pharmacognosy of the Allergens.** The identification and distribution of hay fever plants is discussed. The course includes an atmospheric survey and the study of wind-borne pollen and fungi spores. Two lectures and one three-hour laboratory period each week. III or summer, (3).
314. **Histological Techniques.** The theoretical and practical development of the

knowledge and skills essential to the preparation of biological materials for microscopic study are considered. One lecture and two three-hour laboratory periods each week. I or II, (3). Prerequisite: Pharmacognosy 233 or permission of the departmental faculty.

- 316. Commercial Pharmacognosy.** The traffic in crude drugs and related products is examined with consideration of the basic principles governing the production, distribution, and consumption of these materials. Three lectures or conferences each week. I, (3). Prerequisite: Pharmacognosy 233.

PHARMACOLOGY

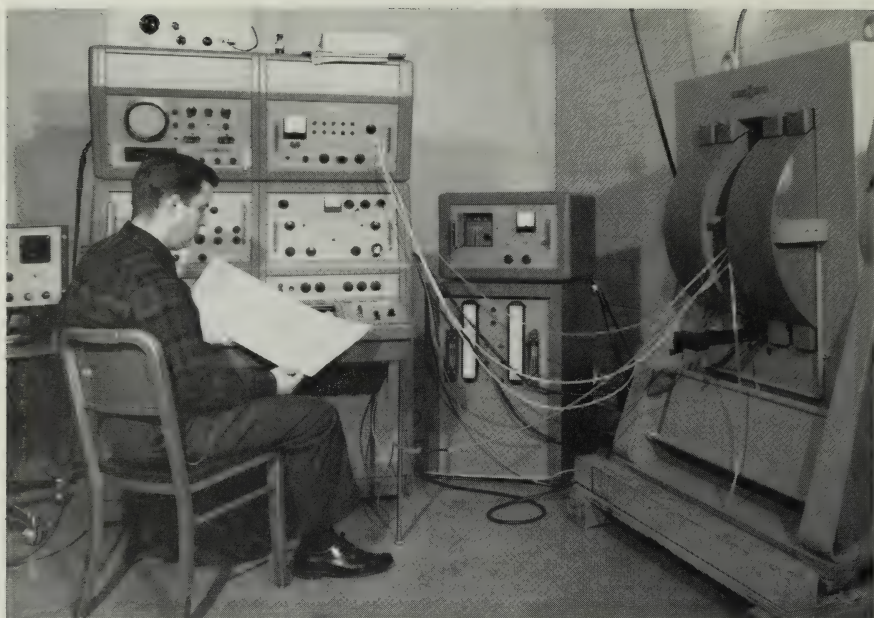
- 241, 242, 243. Pharmacology.** The factors underlying the applications of pharmacologic principles and agents to therapeutic problems are considered. Lectures and discussions are directed to an understanding of the mechanisms and sites of drug actions. Emphasis is placed upon the relationships of physiology, biochemistry, and pathology to the therapeutic applications of drug agents. Three lectures and one four-hour laboratory period each week. I, (4); II, (4); III, (4). These courses must be taken in sequence. Prerequisite: Physiology 232; Chemistry 123; Microbiology 233.

- 244. Emergency Aid.** The role of the community pharmacist with respect to the legal and ethical codes as they apply to emergencies arising in the practice of the profession is outlined. Emphasis is placed upon the description, prevention, and temporary relief measures of emergencies arising from accidents, minor afflictions, self-inflicted injuries, disasters, and national conflicts. Two lectures or conferences each week. II, (2). Prerequisite: Physiology 232.

- 245. Undergraduate Research in Pharmacology.** The student investigates, under the direction of one or more faculty members, a pharmacologic problem of limited scope. The investigation may include experimentation and library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours' credit. Prerequisite: A grade-point average of 3.5 and permission of the departmental faculty.

- 250. Veterinary Pharmacology.** A course designed to acquaint the pharmacist with the application, mechanism of action, and dangers of drugs used in the areas of agriculture and veterinary medicine. Three lectures each week. III, (3). Prerequisite: Pharmacology 242. Pharmacology 250 is offered in alternate years.

- 310. Bioassay.** Official, industrial, and general bioassay procedures are studied with emphasis on their applicability. Their reliability is considered on a statistical basis. Laboratory demonstration periods emphasize the designing, setting-up, and analysis of representative bioassay preparations. Two lectures and two three-hour laboratory demonstration periods each week. II or III, (4). Prerequisite: Pharmacology 241 and permission of departmental faculty. Pharmacology 310 is offered in alternate years.



NUCLEAR MAGNETIC RESONANCE SPECTROMETER

PHARMACY

110. **Orientation to Pharmacy.** A series of lectures or discussions intended to introduce the student to the scope and opportunities in the field of pharmacy are presented. Opportunities in research, selling, manufacturing, and hospital pharmacy as well as those in retail practice are included. One class meeting each week. I or II. While successful completion of this course is required, credit toward graduation is not granted.
112. **General Pharmacy.** The nomenclature, mathematics, medical vocabulary, and general processes of pharmacy are presented. Three lectures and one three-hour laboratory period each week. II, (4).
121. **Inorganic Pharmacy.** This course concerns the inorganic compounds of pharmaceutical importance. The presentation is based on the arrangement of the elements in the periodic table. Emphasis is placed on the physical and chemical properties as well as the medicinal and pharmaceutical uses and applications. Three lectures and one three-hour laboratory period each week. I, (4). Prerequisite: Pharmacy 112.
122. **Elementary Physical Pharmacy.** The principles and laws of physical chemistry are applied to the preparation and study of dosage forms. Emphasis is placed on the homogeneous liquid dosage forms, i.e., syrups, elixirs, tinctures, etc. Two lectures, one recitation, and one three-hour laboratory period each week. II, (4). Prerequisite: Chemistry 121; Pharmacy 121.

- 123. Pharmaceutical Preparations, I.** The application of physical pharmacy to the study and preparation of colloidal and heterogeneous liquid dosage forms, i.e., emulsions, suspensions, etc. Three lectures or recitations and one three-hour laboratory period per week. III, (4). Prerequisite: Pharmacy 122.
- 231. Pharmaceutical Preparations, II.** The application of physical pharmacy to the study and preparation of semi-solid and solid dosage forms, i.e., ointments, suppositories, etc. Two lectures or recitations and two three-hour laboratory periods per week. I, (4). Prerequisite: Pharmacy 123.
- 232. Pharmacy Technology.** A variety of the more complex drug products is discussed in regard to ingredients, formulation, preparation, and packaging. Principal attention is given to tablets, capsules, injections, and ophthalmic solutions. Appropriate raw materials are grouped in regard to their pharmaceutical properties and usage. Demonstrations in the manufacturing pharmacy laboratory show the mechanized production of the above pharmaceuticals and of nonsterile liquid dosage forms.
- Laboratory work includes small-scale extemporaneous preparation of sterile liquids, including aseptic transfer and sterility testing. Two lectures, one recitation, and one three-hour laboratory or demonstration period each week. II, (4). Prerequisite: Pharmacy 231.
- 235. Introduction to Hospital Pharmacy.** This course provides an introduction to the administrative and professional practice of pharmacy in hospitals and related health care facilities. Two lecture periods each week. III, (2). Prerequisite: Third-year standing.
- 237. Special Pharmaceutical Formulations.** Pharmaceutical dosage forms applicable to dentistry, animal, and allied health professions are discussed. Aerosols, sustained release medications, coloring and flavoring agents, and diagnostic aids are covered. One lecture and one three-hour laboratory period each week. III, (2). Prerequisite: Pharmacy 232.
- 241, 242, 243. Clinical.** Drug product information, drug interactions, and analysis of patient medication records are presented. The course is designed to give the student a better insight into drugs and their usage by embracing all aspects of pharmaceutical practice—including the triad of prescriber, patient, and drug. Laboratory work includes the compounding and dispensing of prescriptions. Students present oral and written comparative drug information reports. Clinical experience is attained in the University Hospital Pharmacy and affiliated Hospital Pharmacy dispensing units. Three lectures and one three-hour laboratory period each week. I, (4); II, (4); III, (4). These courses must be taken in sequence. Prerequisite: Pharmacy 237.
- 245. Undergraduate Research in Pharmacy.** The student investigates, under the direction of one or more faculty members, a pharmaceutical problem of limited scope. The investigation may include experimentation and library



JUNIOR-SENIOR PHARMACY DISPENSING LABORATORY

research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours credit. Prerequisite: Three years of college with a grade-point average of 3.5 and permission of the departmental faculty.

250. **Hospital Pharmacy Clinic.** This course provides discussions and experience in hospital pharmacy administrative and professional practices. Two conference periods and three hours of practice in hospital pharmacy each week. I, II, III, (3). Prerequisite: Pharmacy 235 (may be taken concurrently).
255. **Manufacturing Pharmacy.** An introduction to the development, production, quality control, and production control of pharmaceutical products. The laboratory work includes small-scale methods for the preparation of drug and cosmetic products involved in the manufacturing requirements of professional and hospital pharmacies. Two lectures and one four-hour laboratory period each week. I and II, (3). Prerequisite: Pharmacy 232.
260. **Introduction to Industrial Pharmacy.** Principles of selection of ingredients, processes, equipment, facilities, stability tests, containers, etc. Good manufacturing practice, analytical control, statistical quality control, production planning, governmental regulations, structure of pharmaceutical companies. Problems involved in both pilot plant and large-scale production are considered. Emphasis is placed on tablets and other nonsterile products. Two

lectures and two four-hour laboratory periods each week. II or III, (4). Prerequisite: Pharmacy 255.

- 265. Sterile Product Technology.** Formulation, preparation, and evaluation of pharmaceutical products with particular reference to sterile medicinals and to special projects. Antiseptics, disinfectants, preservatives, chemical and physical sterilization. Two lectures and one four-hour laboratory period each week. III, (3). Prerequisite: Pharmacy 255.
- 275. Cosmetics.** The composition, formulation, and manufacture of selected types of cosmetics are considered. Problems of perfuming, coloring, packaging, and preservation are discussed. Two lectures and one three-hour laboratory period each week. III, (3). Prerequisite: Fourth-year standing.
- 280. History of Pharmacy.** An introductory course correlating the history of the profession with significant developments in the sciences and humanities. Selected readings of the (translated) works of master philosophers and scientists are utilized to gain insight into the social environment of the pharmacist throughout history. Three seminar-lectures each week. II, (3). Prerequisite: Third- or fourth-year standing and permission of the departmental faculty.
- 295. Seminar in Pharmacy.** The seminar is designed to provide the student with experience in the oral and written presentation of topics of current interest to the profession of pharmacy. One class meeting each week. I, II, III, (1). May be elected for a total of not more than three credit hours and may be taken only once during any academic year. Open to sophomores, juniors, and seniors.
- 301. Hospital Pharmacy Practice, I.** This course provides principles, objectives, and methods of administration applied to management of a pharmacy service in a modern hospital. It includes the "classical" approach to management, a review of hospital structure and function, and the organization and direction of a hospital pharmacy service. Three lecture or conference periods per week. I, (3). Prerequisite: Pharmacy 250.
- 302. Hospital Pharmacy Practice, II.** This course provides guided experience in planning, organizing, and managing the various administrative and professional areas of a hospital pharmacy service. It includes a detailed study of the principles of administrative and professional practice which will be further exemplified by the Hospital Pharmacy Residency Program. Two lectures and four hours of practice each week. II, (3). Prerequisite: Pharmacy 301.
- 305. Physical Pharmacy.** Physicochemical principles and laws are applied to the study of pharmaceutical dosage forms. Special emphasis is placed on research reports in the current pharmaceutical literature. Three lectures each week. I, (3). Prerequisite: Pharmacy 231; Chemistry 121 or equivalent.



CLINICAL PHARMACY LABORATORY

- 310. Pharmaceutical Manufacturing Unit Operations.** The study of the general theory of the unit operations and the dosage form manufacturing processes in which these operations are used. Two lectures and one four-hour laboratory period each week. I, II, or III, (3). Prerequisite: Permission of departmental faculty.

PHARMACY ADMINISTRATION

- 111. Principles of Accounting.** Fundamentals of accounting practice are discussed and applied to retail pharmacy. The discussions include methods applicable to stores operating as individual proprietorships or as partnerships. Four class meetings each week. I, (4).
- 113. Elements of Economics.** This course provides a general survey of the operation of the economic system with reference to the business firm, the determination of price and output, the level of national income and the general price level, the monetary and banking system, government finance, competing economic ideologies, and the economics of health. Four class meetings each week. III, (4).
- 121. Principles of Marketing.** The functions, commodities, and middlemen involved in the marketing of goods and services are discussed. Attention is given to the marketing policies and problems involved in the operation of institutions engaged in producing and distributing pharmaceutical products. Four class meetings each week. I, (4). Prerequisite: Pharmacy Administration 111, 113.

- 235. Pharmaceutical Promotion and Selling Methods.** The fundamentals and technic of promoting and selling pharmaceutical products are examined. Consideration is given to promotional methods and personal selling in marketing activities of manufacturers, wholesalers, and retailers. Four class meetings each week. II, (4). Prerequisite: Pharmacy Administration 121.
- 240. Retail Pharmacy Management.** The operational problems of the retail pharmacy from the viewpoint of those responsible for management decisions are considered. Topics discussed include store establishment and organization; buying, pricing, and selling methods; merchandise planning; expense control; personnel selection and management; and financial analysis. Four class meetings each week. III, (4). Prerequisite: Pharmacy Administration 121.
- 243. Pharmacy Law.** The laws and regulations relating to the practice of pharmacy and the principles of common law bearing upon the work and responsibilities of the pharmacist are presented. Four lectures or recitations each week. III, (4). Prerequisite: Fourth-year standing.
- 245. Undergraduate Research in Pharmacy Administration.** The student investigates, under the direction of one or more faculty members, a problem of limited scope in this field. The investigation may require library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of not more than six hours' credit. Prerequisite: A grade-point average of 3.5 and permission of the departmental faculty.
- 255. Principles of Business Law.** The principles of business law covering the subjects of contracts, sales, negotiable instruments, agency and business organizations are discussed. Four lectures or recitations each week. II, (4). Prerequisite: Pharmacy Administration 111, 113.

PHYSICAL EDUCATION

- 101, 102, 103. Physical Education.** The program is designed to develop physical fitness and skills in various recreational activities. Students scoring low on a motor fitness test are assigned to a developmental class. I, II, and III, (1). Credit for these courses is required of all first-year students in the College of Pharmacy. Credit may not be used for graduation.

PHYSICS

- 111, 112, 113. General Physics.** This course presents a study of the fundamental concepts and laws of physics and is designed to give a thorough presentation of the basic principles of classical physics as well as of the more recent developments. Attempts are made to apply the theoretical matter to practical problems. Two lectures, one recitation, and one three-hour laboratory period each week. I, (4); II, (4); III, (4). Prerequisite: College algebra and plane trigonometry. Physics 111 is a prerequisite to either Physics 112 or 113.
- 315. Modern Physics.** Basic tenets of relativity and quantum theories are pre-



PHARMACY IN ILLINOIS EYE AND EAR INFIRMARY

sented. Topics discussed include elementary particles as well as atomic and nuclear structure. The biological and chemical implications of physics are stressed. Three lectures each week. (3). Prerequisite: Physics 113; Mathematics 111.

- 325. Radioactive Isotopes.** The properties and methods of the detections of radiations are discussed. The use of tracers in radiobiology, medicine, and chemistry, including the applications to therapy and health physics, are included. Methods of assaying and dispensing radioactive pharmaceuticals are emphasized. Two lectures and one four-hour laboratory period each week. (3). Prerequisite: One-year general physics course.

PHYSIOLOGY

- 231. Human Physiology.** This course deals with the fundamental aspects of human and mammalian physiology as the basis for understanding some elementary concepts of clinical physiopathology. The systems formally covered in the first term are (hours in parentheses): blood, heart, and circulation (12), kidney and body fluids (5), digestive system and liver function (10), respiration, energy metabolism, and temperature regulation (9). Video-tapes and live demonstrations, selected among pertinent physiological experiments, supplement and clarify the material covered in the

lectures. Three lectures and one one-hour demonstration each week. I, (4). Prerequisite: Zoology 123; Chemistry 123.

- 232. Human Physiology.** This course is a continuation of Physiology 231. The systems covered in this term are (hours in parentheses): endocrine glands (13), muscular and nervous systems (15), special senses (4), homeostatic mechanisms (2). Video-tapes and live demonstrations supplement the material covered in the lectures. Three lectures and one one-hour demonstration each week. II, (4). Prerequisite: Physiology 231.

PSYCHOLOGY

- 126. Introductory Psychology.** Introductory analysis and description of human behavior. The course systematically considers biological and social aspects of behavior, growth and development, motivation, emotion and adjustment, personality and its appraisal, learning and perception. Three lectures or recitations each week. I, II, or III, (3).
- 130. Applied Psychology.** This course is concerned with the application of the principles of psychology to industry, business, and emotional adjustments. The areas considered include industrial efficiency, advertising techniques, employee and executive selection, detection and treatment of criminals and delinquents, techniques of diagnosis, and principles of personal adjustment. Three class meetings each week. I, II, or III, (3). Prerequisite: Psychology 126.

PUBLIC HEALTH

- 241. Public Health.** The course emphasizes the history and development of public health, epidemiology, diseases transmitted by contact and by arthropods, airborne infection, nutrition, zoonoses, occupational health, environmental health — waste disposal, air pollution, radiation, and housing, maternal and child health, heredity and disease, diseases of personal adjustments and chronic diseases, socioeconomic problems associated with medical care, and geriatrics. Four lectures each week. I, (4). Prerequisite: Microbiology 233.

SOCIOLOGY

- 125. Introductory Sociology.** This course serves as an introduction to the basic structure and the principal forces which influence human society. The fundamental aspects of social organization, culture, socialization and personality, social interaction, collective behavior, and social change are considered. Three lectures or recitations each week. I, II, or III, (3).

ZOOLOGY

- 121. General Zoology.** This course introduces the student to the basic biologic principles of cytology, metabolism, embryology, anatomy, genetics, and evolution as illustrated by the major animal phyla. Two lectures and two three-hour laboratory periods each week. I, (4).
- 122. Mammalian Zoology.** The structure of mammals as correlated with function



PHARMACY STUDENTS ATTEND GRAND ROUNDS

is studied. The fundamentals of mammalian embryology, evolution, adaptation, distribution, and classification are also presented. Two lectures and two three-hour laboratory periods each week. II, (4). Prerequisite: Zoology 121.

123. **Mammalian Histology.** A study of the fundamental microscopic anatomy of tissues, organs, and organ systems. Correlation between structure and function is emphasized. Two lectures and two three-hour laboratory periods each week. III, (4). Prerequisite: Zoology 122.
205. **Invertebrate Zoology.** This course stresses the morphology, physiology, life cycles, and ecology of free-living invertebrates. It includes laboratory and field work. Three lectures and one three-hour laboratory period each week. II or III, (4). Prerequisite: Zoology 121.
215. **General Entomology.** This introductory course stresses the recognition, life histories, morphology, physiology, and distribution of insects and related forms. It provides a background for an understanding of control by the use of insecticides and other means. Three lectures and one three-hour laboratory period each week. III, (4). Prerequisite: Zoology 121.
245. **Undergraduate Research in Zoology.** The student investigates, under the direction of one or more faculty members, a zoological problem of limited scope. The investigation may include experimentation and library research. Hours to be arranged. I, II, and III, (1 to 4). May be elected for a total of

not more than six hours' credit. Prerequisite: A grade-point average of 3.5 and permission of the departmental faculty.

- 295. Seminar in Biology.** The student is required to present a paper resulting from a survey of the literature dealing with a specific topic in biology. I, II, and III, (1 to 3). May be elected for one hour credit in each of three quarters. Prerequisite: Fourth-year standing with a grade-point average of 3.5 and permission of the departmental faculty.
- 310. Genetics.** This course considers the fundamental principles of biological inheritance and the application of these in the study of plant and animal life. Two lectures and two three-hour laboratory periods each week. I, (4). May be elected in the fourth year only. Prerequisite: Zoology 123.
- 341. Parasitology.** The vertebrates and invertebrates responsible for, or involved in, the transmission of diseases of man and domestic animals are studied. The epidemiology of viral, bacterial, protozoan, and helminthic diseases is stressed, with particular attention given to the various patterns of survival and spread of the parasites and their entry and exit from the host. The Protozoa, Helminths, and Arthropods are used to illustrate the biology of host-parasite and other interspecific biological relationships. Venomous arthropods and reptiles are also considered to complete the study of animals injurious to human health. Four lectures and one three-hour laboratory period each week. I, (4). Prerequisite: Microbiology 233.

(See Graduate College catalog for courses offered to graduate students.)

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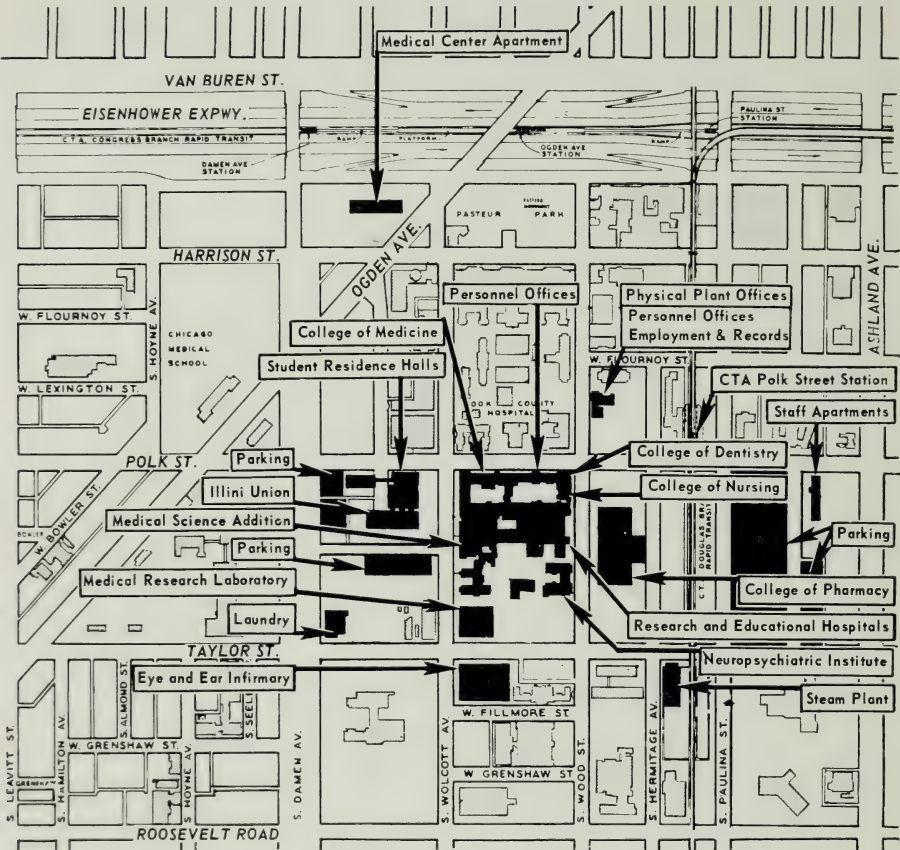
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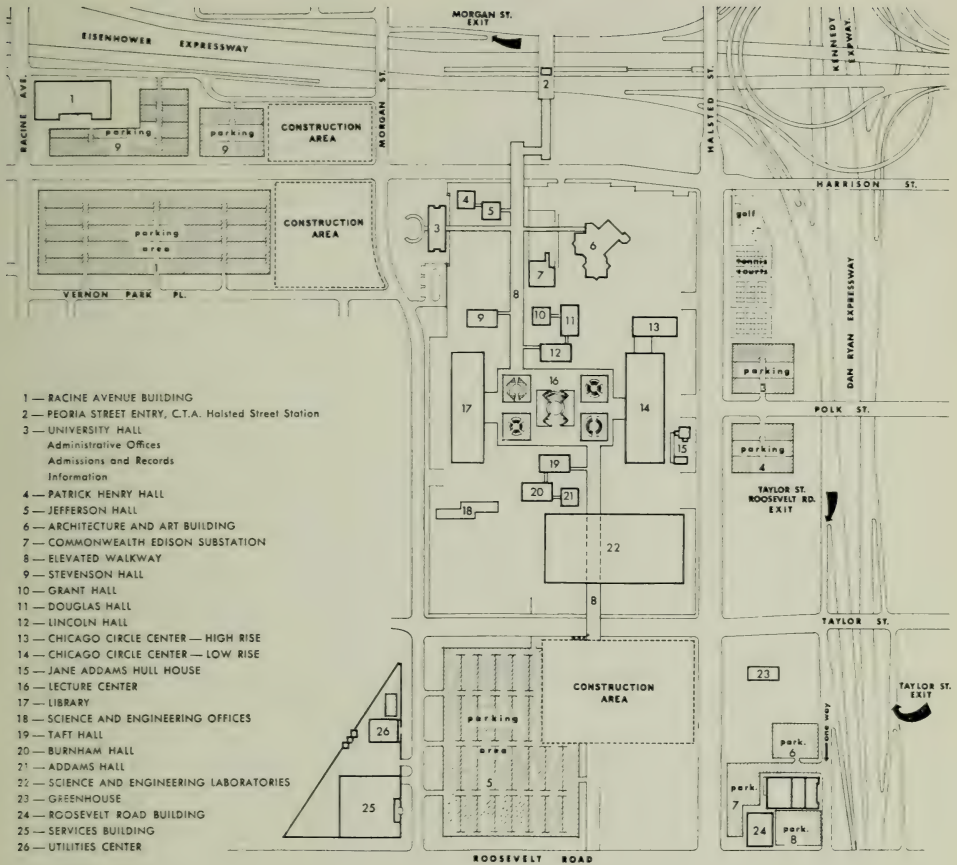
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